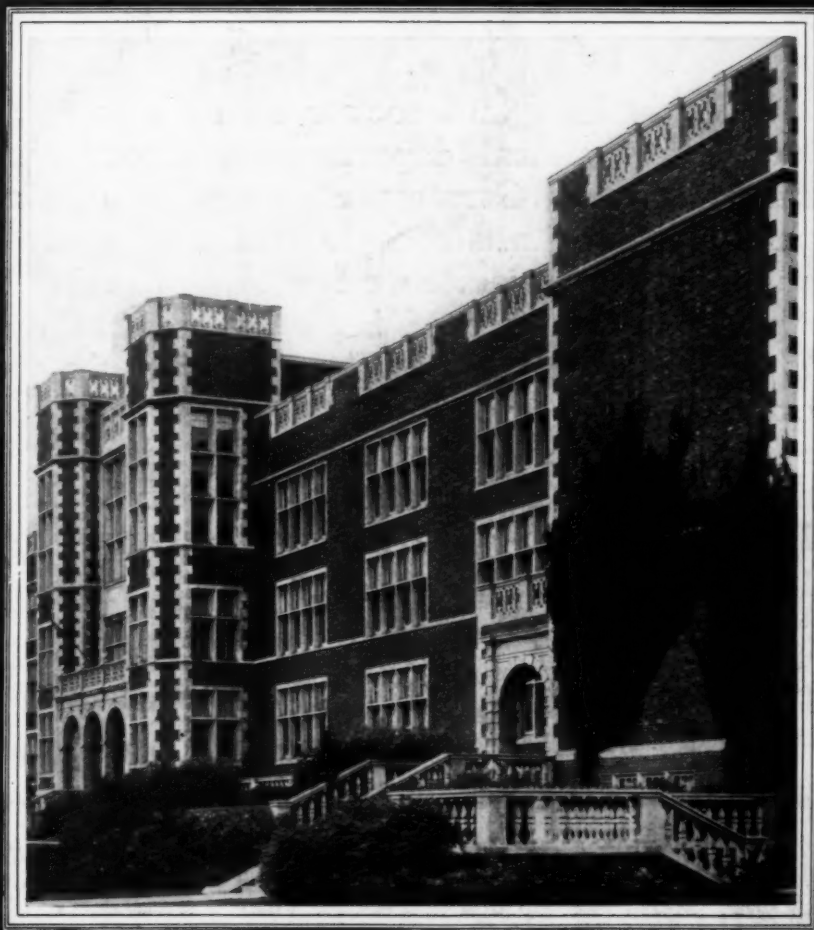


The NATION'S SCHOOLS

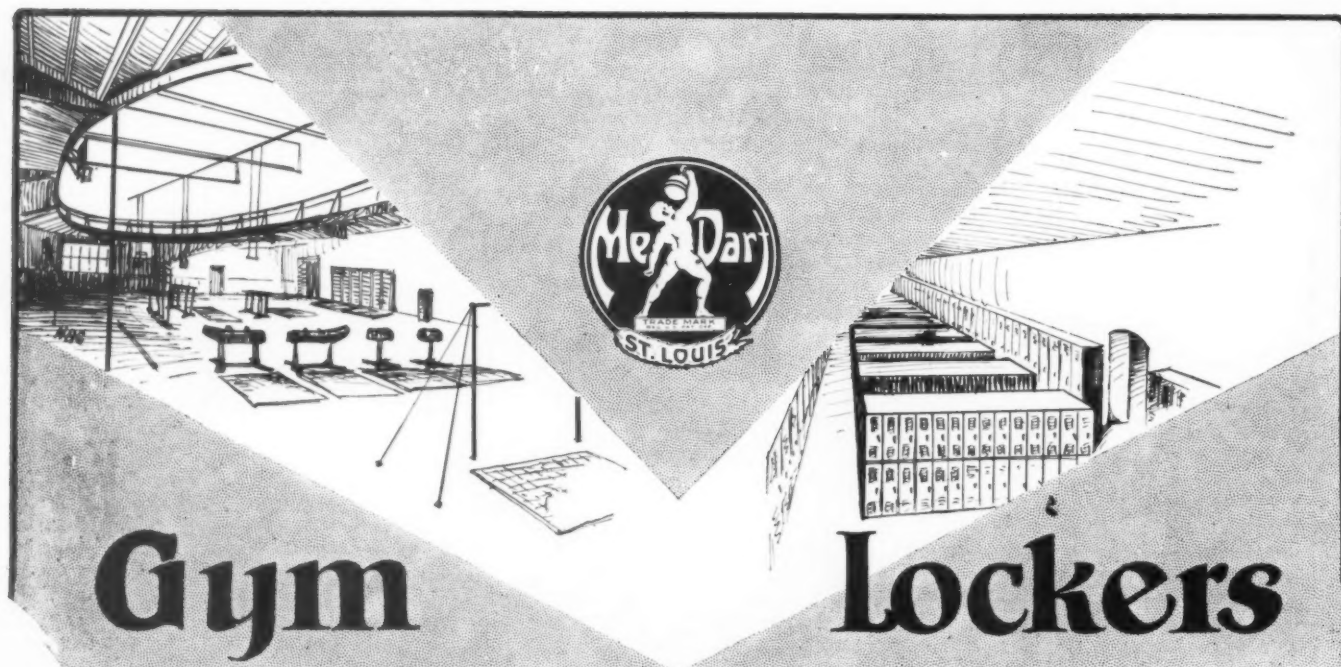
DEVOTED TO THE APPLICATION OF
RESEARCH TO THE BUILDING, EQUIPMENT
AND ADMINISTRATION OF SCHOOLS

VOL. III
No. 4

APRIL
1929



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THE gymnasium and locker room combine to form the physical department. Coordination means efficiency. Greatest efficiency is obtained when these two units are planned and equipped as one. This is a service offered by the Medart Organization. Makers of both gymnasium apparatus and steel lockers, Medart has fifty-six years of experience on the physical side of education. The Medart experience and the Medart Engineering service are offered to interested institutions without obligation. Send for the Medart catalog of gymnasium apparatus and steel lockers.

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Because his health was frail, René Descartes was sent to school only in the afternoon.

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Number 4

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Published on the fifteenth of each month by

THE NATION'S SCHOOLS PUBLISHING CO.

Member Audit Bureau of Circulations

President, OTHO F. BALL

Treasurer, J. G. JARRETT

660 CASS STREET, CHICAGO—Telephone, Superior 6402

NEW YORK OFFICE—11 West 42nd Street. Telephone, Longacre 6591

SUBSCRIPTION RATES—Domestic, \$2.00. Canada and Foreign, \$2.50. Single copies (current), 25c. Back copies, 50c. Domestic rates include United States and possessions.

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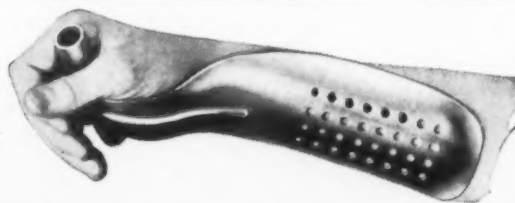
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Improvements**

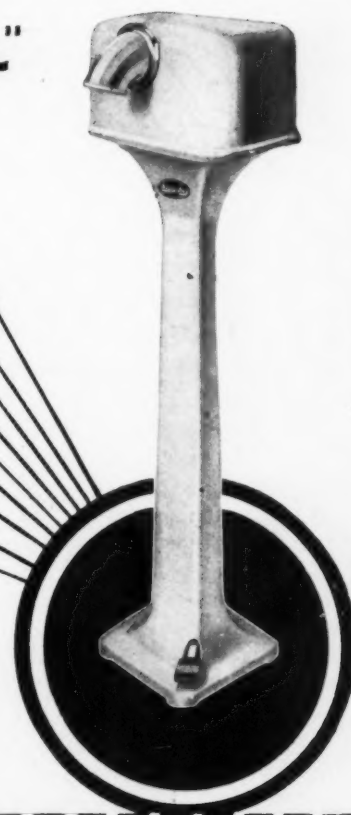
are briefly, yet thoroughly described in a new booklet just off the press.

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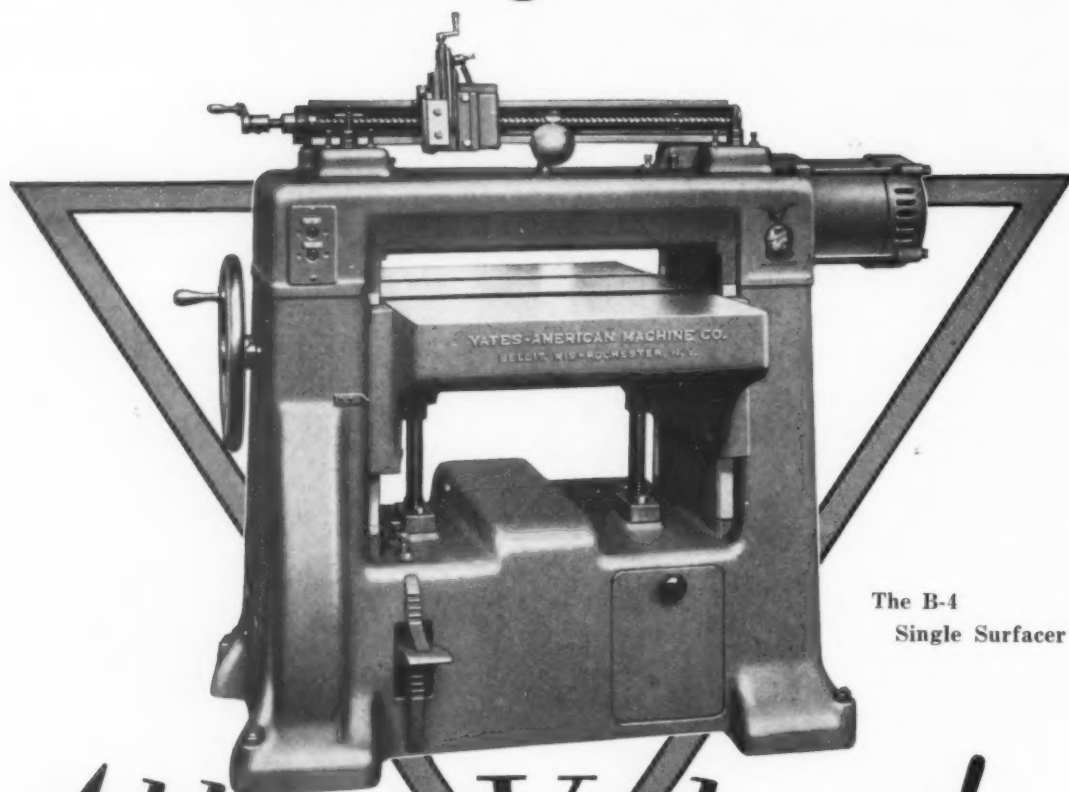


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Educational Division

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HAZEL-ATLAS GLASS CO.

WHEELING, W. VA.



 376

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TUMBLER

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*Always...
they enjoy outdoor
air — indoors...*

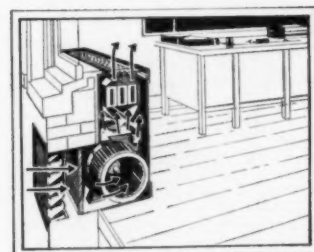
*... air filtered clean and always
at the temperature desired ...*

ONLY modern ventilating apparatus can keep school children air-comfortable—regardless of the weather!..

It is a tribute to engineering initiative that outdoor air may be brought indoors in *perfect control*...that it may be filtered clean of dust...warmed to any desired temperature and discharged without a hint of draft...*uniformly*...**SAFELY!**

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School Furniture
Catalogue 103-S

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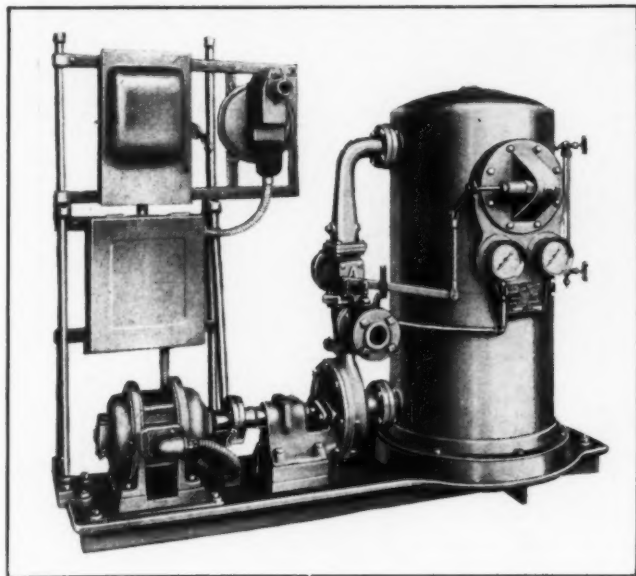
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is based on fundamentals of design and construction



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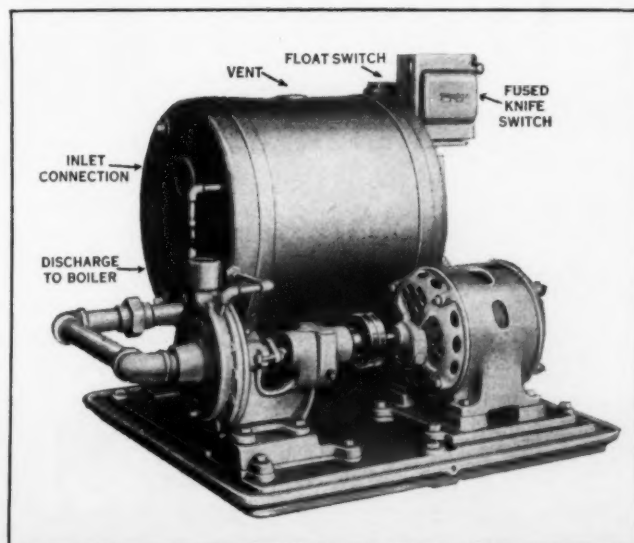
In Dunham Pumps are incorporated both of these two fundamentals of research and engineering, with the added experience of this company with heating systems for all classes of structures during the last quarter century. As a result you will find that Dunham Pumps have high efficiency, long life, great freedom from repairs, and extremely low maintenance costs.

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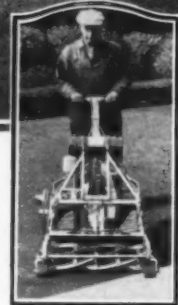
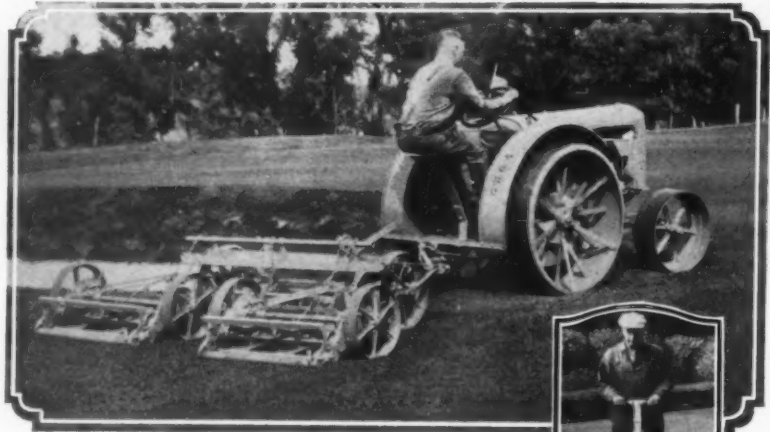
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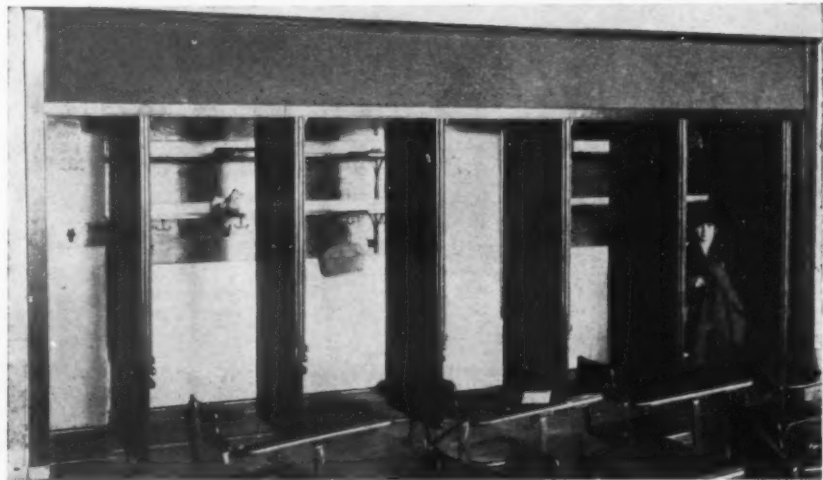
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The MILLER SCHOOL WARDROBE will stop them!

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Kansas City
Missouri

55% of the Nation's School Seats are "American" Built

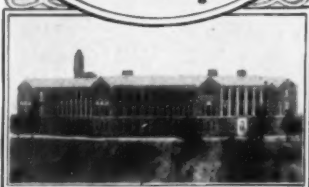
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and Chair
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No. 114



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No. 174



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But the Service is Local to you."

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Pedestal Desk
and Chair
No. 104



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Adjustable
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American Seating Company

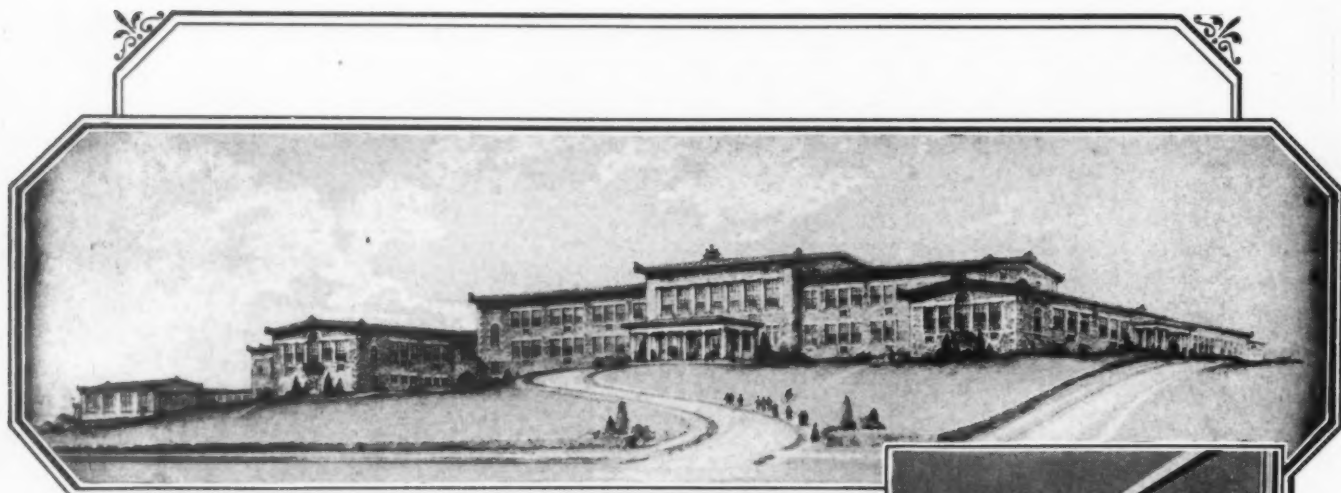
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Chicago, Illinois

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ARE BEST!"



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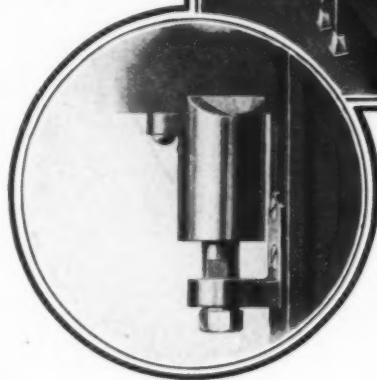
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NEW BRITAIN, CONN.

Agents in Principal Cities



Veneer-Steel Partitions

3 Reasons Why



Administration Building, Goucher College, Baltimore, Md.

Goucher College paints with Barreled Sunlight

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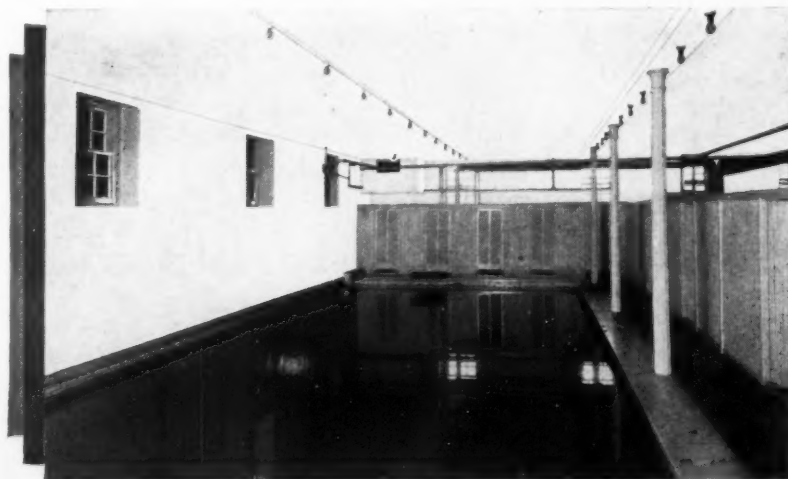
washed, like tile, without wearing away.

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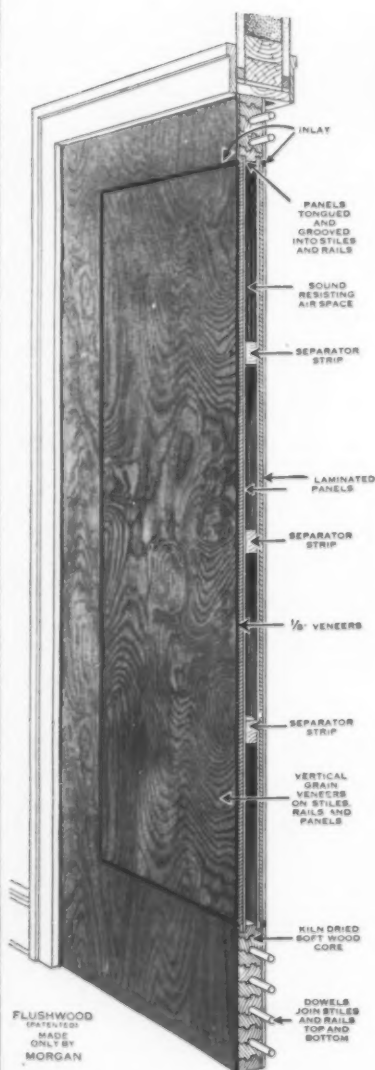
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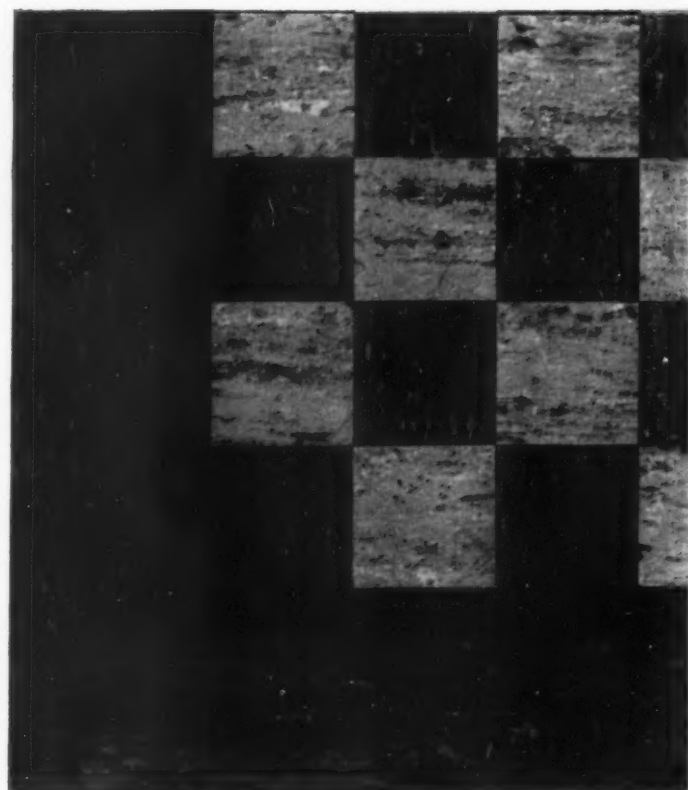
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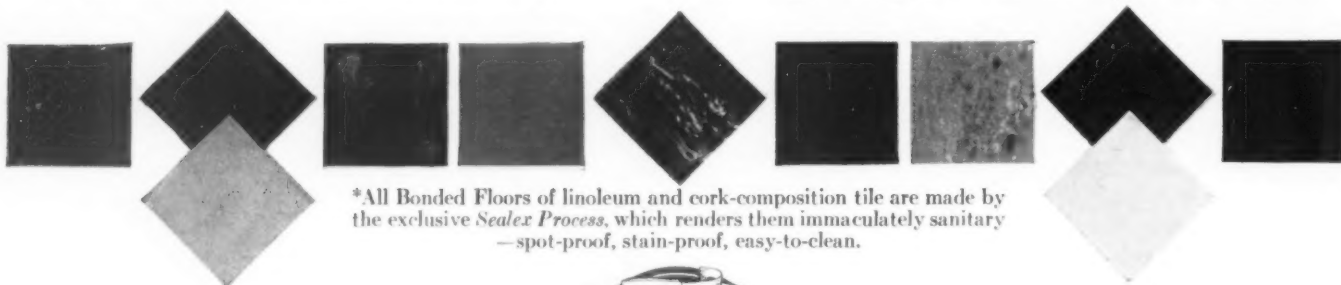
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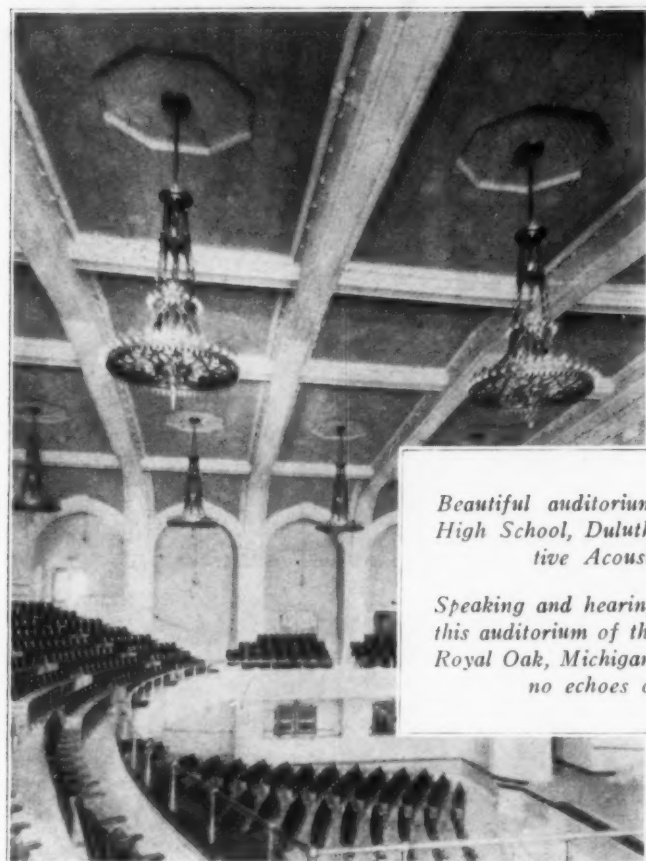
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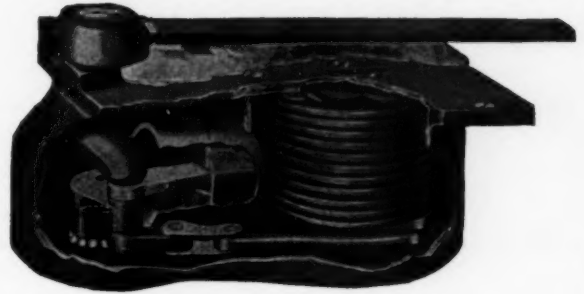
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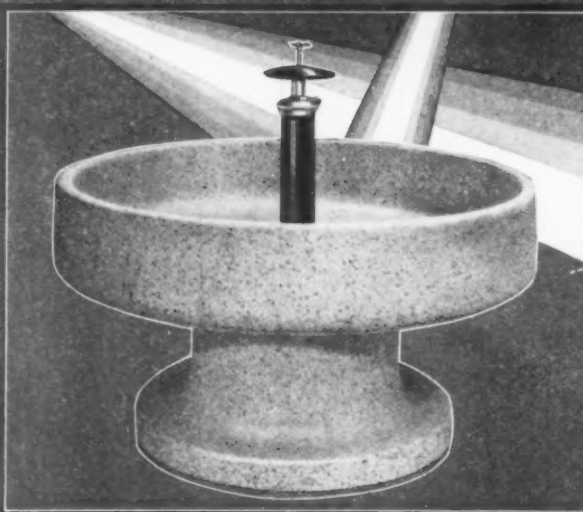
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The NATION'S SCHOOLS

DEVOTED TO THE APPLICATION OF RESEARCH TO
THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

VOLUME III

APRIL, 1929

NUMBER 4

Is the Superintendent the School System's Head?*

City school systems are prone to develop not according to plan but in a more or less piecemeal fashion. There is need therefore for functional organization in the school system, supplemented by research

BY M. R. KEYWORTH, SUPERINTENDENT OF SCHOOLS, HAMTRAMCK, MICH.

THE approach to educational organization must be based upon the philosophy underlying such public activity and must be conceived of as a means to an end in the attainment of the objectives set up in the accepted philosophy. In a democratic organization there must be centralization of planning and control and decentralization of execution.

In every activity, individual or group, private or public, there are three definite functions—planning, executing and appraising. Although each is of coordinate rank and value, yet by their very nature they represent different types of activity. To secure the most efficient operation of a purpose, careful provision must be made for their proper functioning. Since necessity developed through strong competition tends to accelerate progress, it may be conceded that the recognition of functional organization in commercial activity has proceeded faster and more efficiently than in public activity. Insofar as the general underlying principles of planning, executing and appraising apply to private as well as public activity it is possible to use private organization as an illustration without approving of the detailed practices or methods used by a specific economic organization.

The development of most city school systems,

particularly those whose growth has been fairly normal and continuous, has been a process of piecemeal evolution. Changing educational demands and needs have necessarily been treated as matters of expediency. Schools have either lacked or have not utilized the means for determining their needs by objective evidence. They have either lacked or have not utilized the means for measuring their products. Inevitably the development of the schools has been modified by such factors as group requests, individual opinion, political influence and entrenched personnel. A subject has been added or a position created in a manner best suited temporarily to avoid opposition and to satisfy as far as possible insistent needs and demands. Sooner or later such a school system becomes disorganized and inefficient. Community dissatisfaction, outside surveys and reorganization follow.

The stress of competition and the inexorable demands of stockholders for profits have forced successful industries to become efficient. Those that have not done so have either become bankrupt and disappeared, have been absorbed by a successful competitor or have been reorganized and refinanced. Certain industries have made colossal mistakes. The high mortality rate among industries is evidence of this.¹ Such industries can disappear without disrupting society. Schools

*Paper read at the meeting of the Department of Superintendence of the National Education Association, Cleveland, February, 1929.

¹ Report No. 62, Business Death Rates, A. W. Shaw & Co., 1925.

cannot do so. School systems must correct their errors and proceed.

Out of the stress of industrial conflict, the surviving industries have certain characteristics that are so general as to be significant. These are: (a) specialization of work into departments on a functional basis; (b) the combination of the line and staff types of organization—the line type for efficiency and the staff type for planning, deliberation and adjustment; (c) the keeping of minute and accurate records in all departments; (d) experimentation and research for improvement and growth.

Functional organization is as applicable to

school systems as to industry. Every school system in fact does have functional organization. It is more a question of degree, of specialization, of differentiation and of definition.

Functional organization as applied to a school system means a differentiation and division of the work to be performed into sections, each section consisting of work that pertains to a specific type which is specialized and which requires specific techniques. A distinction needs to be made between a functional division and a compartment. In a compartment all types of work are performed. Each compartment is practically a complete system in itself. In a compartmental system the whole system is a confederation of several systems.

Functionally, a board of education is a legislative and an appraisal body. Its only power is by resolution at a legal session. It is composed of lay members who are representatives of the public and who are not presumed to be educational specialists. To restrict unduly the qualifications of board members would be a perversion of the principles of a democratic government. Board members serve generally without remuneration. Obviously, the board is to see that schools are established, operated and maintained in compliance with law and with local needs. The board decides what is to be done and, upon approval of what is done, authorizes payment out of public funds. The basic conception of lay members serving without compensation implies that the board members authorize what is to be done but that they do not do it themselves. Functionally, a board member would be obviously out of place in actually laying out bricks in a new school building, in firing a boiler, hiring a teacher or teaching a class. The board adopts the policies, selects an executive, approves plans for putting adopted policies into effect, appraises the results of both adopted policies and plans and then authorizes payment.

Since the board decides what is to be done but does not do it, then the doing must be delegated. Doing that which the board decides is to be done is called the executive func-

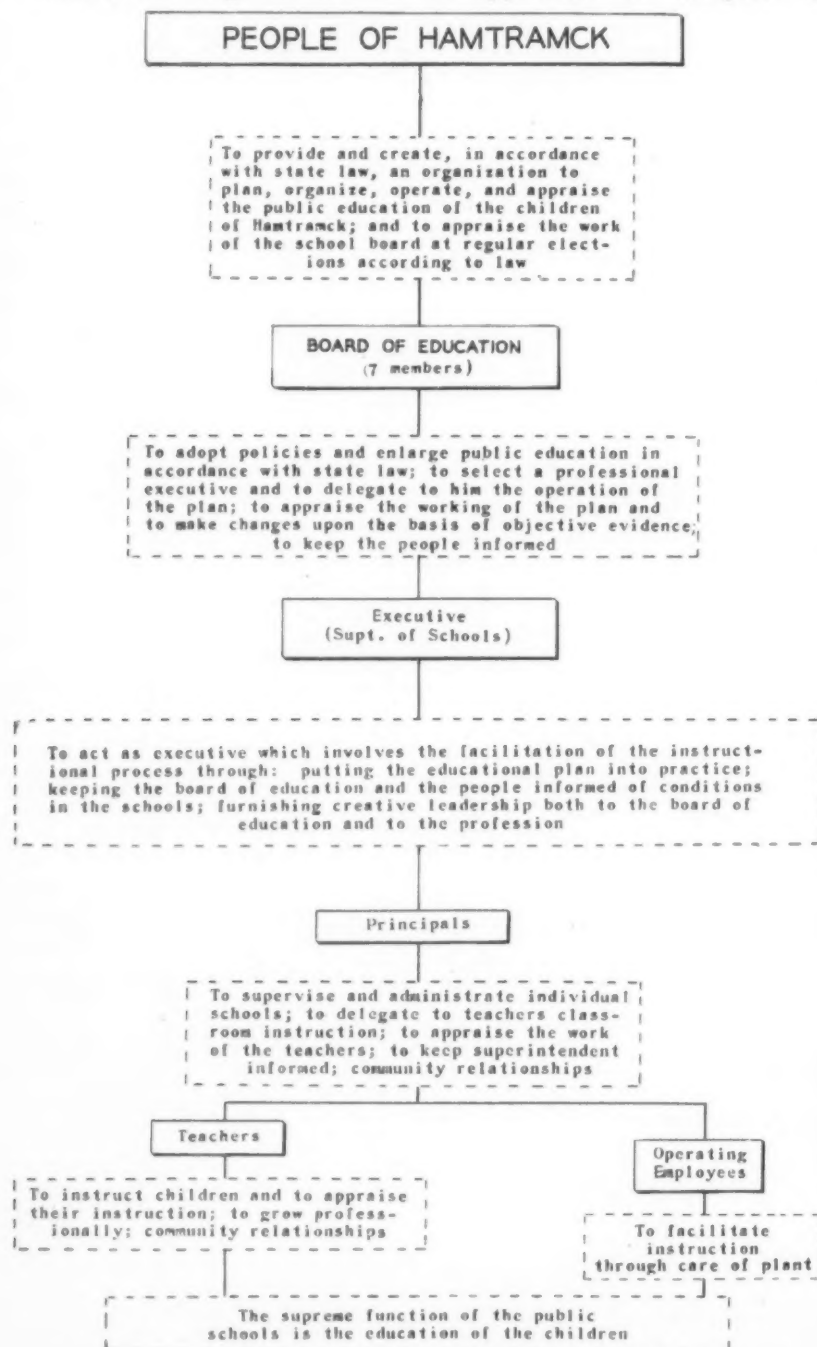


Diagram 1. The functional organization of public education in Hamtramck, Mich.

tion. The executive function is putting into effect the adopted policies of the board of education. The executive officer of the board is the superintendent of schools who corresponds to the general manager in an industrial organization.

An analysis of the executive function shows that there are ten major activities as follows: administration; child accounting; personnel management; service of supplies; the school plant; public relations and informational service; records; research; creative instruction; finance.

With a single teacher in a one-room school all of these activities would be lodged, theoretically, in this one individual. As the school increases in size and more than one person is employed these activities are differentiated and delegated. In a large city school system all these activities are delegated and redelegated until several thousand persons are engaged in them. It is in the delegation of these activities that the principles of functional organization of the line and staff type become involved. These principles are: (1) clean cut division of activities and specific definition of functions of each activity; (2) straight line delegation from the superintendent to each division and no cross lines between divisions; (3) the head of each division to be the chief line officer of that division and also a staff officer on the staff of the superintendent; (4) each division to maintain an adequate system of records; (5) each division carrying on research in its respective activity.

Obviously in smaller systems two or more activities would be included in one division. Diagram 1 shows the basic functional organization of a specific school system, that of Hamtramck, Mich. Diagram 2 shows the functional executive organization of the same school system.¹

Efficiency is provided for through the adoption and use of: carefully defined policies; routine formalized procedures, standardized in terms of

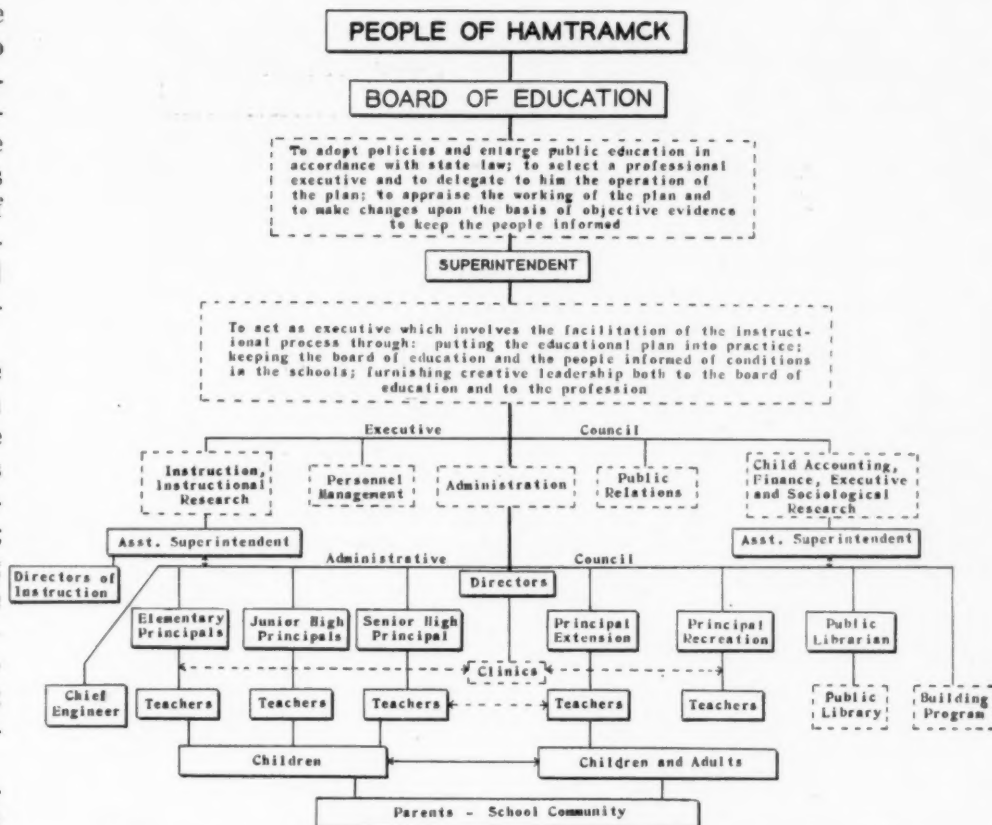


Diagram 2. The executive organization of the Hamtramck public schools.

policy and proved knowledge; centralization of control in the administrative agents to make decision and coordination of effort possible.

Improvement of efficiency is provided through provision for: systematic variation from standard policies and means; measurement of the effect of such variation; modification of both policies and means upon the basis of measured results.

Initiative or freedom of the individual is provided by: giving to all the right to present evidence of inefficiency of both policies and procedures; providing opportunities and channels for presentation of more efficient procedures; recognizing the right to entertain new faiths and ideals, contrary to the standard policies and means; providing the opportunity to put such new beliefs to experimental trial in an attempt to prove them better than the old.

So far there has been presented in a brief manner an outline of functional organization and administration of the line and staff type. Specific techniques and detailed procedures are of necessity left out. This presentation is concerned with the problems of research in functional organization. However, before discussing research, one item should be considered. This is the distinct differentiation between creative instruction and administrative supervision. This affects the status of the supervisor and the principal in the conventional school system and also relates to the sub-

¹ From the Public-School Code, Hamtramck, Mich.

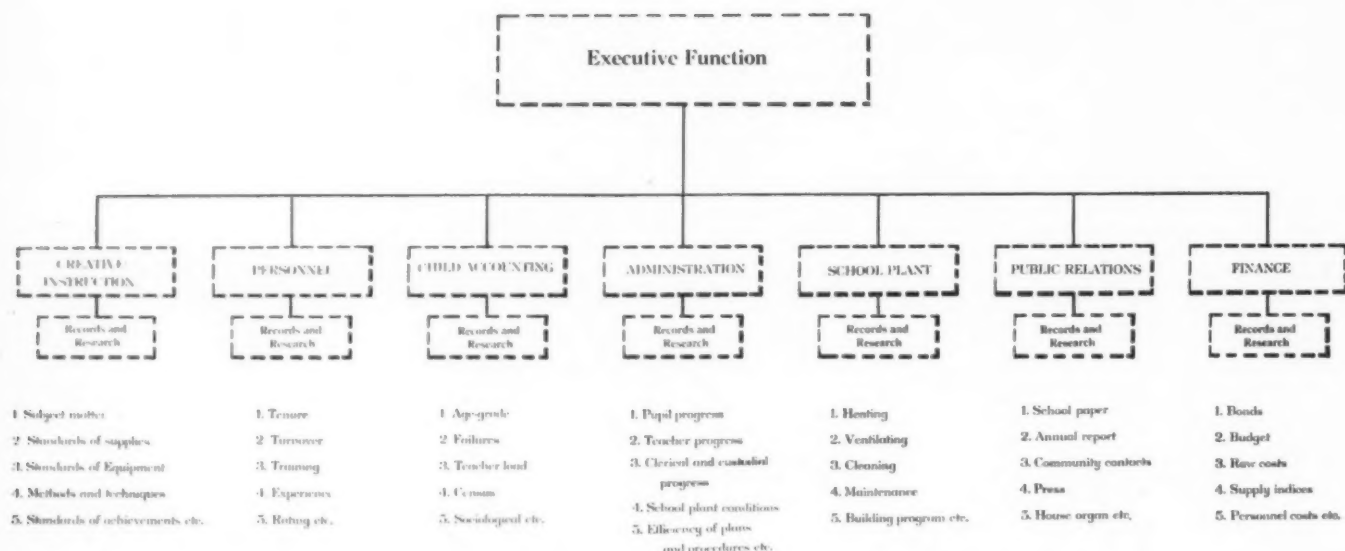


Diagram 3. The contribution of records and research in the executive function.

ject of research. The activity of creative instruction corresponds to the experimental branch of an industry. Its problem is to improve instruction by experimentation on subject matter, methods, techniques, supplies and equipment. The conventional supervisor becomes an educational specialist who is to do creative work. No longer is this individual an administrator and no longer is he responsible for classroom achievement. Administrative supervision becomes the work of the principal as it should be.

Putting the instructional program into effect corresponds to the production branch of an industry. It is a part of the administration activity of the function of the superintendency. The product is the habits, attitudes and ideals or the powers that the children develop, which enable them to live successfully in a democracy. The principal of the school is similar to the branch superintendent in an industry. The principal takes the program, the plans, the specifications and the blue prints and puts them into effect. In carrying out the program the principal meets obstacles and discovers difficulties that he is not qualified or has not the time to overcome. These are reported up the line to the superintendent, who in turn at a staff meeting allocates these through proper channels to those whose work it is to discover corrective means.

What Is Research?

The whole subject of keeping accurate records of the various activities, of discovering high spots and low spots, of encountering problems and obstacles and of finding corrective measures constitutes the field of records and research.

Research is a means of discovering truth. On the basis of the findings of research changes can

be made and justified. Charles F. Kettering, president, General Motors Research Corporation, says that "Research is the organized function of knowing how to make changes." Research is the source, the guide, the justification of change. Research is the natural enemy of blind traditionalism and of uncompromising custom.

Mr. Kettering says that research is a mental attitude. This is the attitude that seeks objective evidence in place of opinion, that regards nothing as fixed and final, that believes that truth must be constantly searched for. This is what Mr. Kettering means when he says that one great purpose of research is to make everybody reasonably dissatisfied. This mental attitude should characterize the superintendent, the educational specialist, the principal and the teacher. Hence, research is not apart from and independent of a given activity. It is a vital part of that activity. Although records and research are listed, by analysis, as two of the nine activities of the executive function, they are vital and indispensable parts of the seven other activities. This is obvious because the results of research are valueless unless used. How important it is that research should be a part of the mental equipment of each agent and a component of each activity!

Referring once more to industry, in an industrial organization the sales department keeps its own records and carries on research in order to discover possibilities of sales extension. Its records reveal criticisms and objections raised against the product. The information relating to the product is transmitted by the sales manager to the staff, and the experimental department may be charged with the task of finding corrections. The experimental department is given a problem revealed by research and pro-

ceeds to solve the problem by experimentation and research. Likewise research in the production department reveals information to be treated by the personnel department of the experimental department. In industry there is no research agent, separate and alone, who is continuously carrying on research in all other departments to discover something, and who does all the research work. Where this has been tried, the result has been to set every other department against research. Independent and extraneous research devitalizes rather than vitalizes.

Let Us Get the Facts

Let us take a given school system and proceed to take stock of this system. We ought to do this because we are spending public money for it. We should know three things about it—what is being done; why it is being done and how well it is being done. We can find the answers to all these by one means, research. It cannot be too strongly emphasized that the answers cannot be found in terms of traditionalism, custom or subjective analysis. We must use facts and we must utilize the tools that will reveal the facts. We can do nothing in research without facts. So we must secure the facts about what is being done. Research considers all policies, plans, procedures, techniques, judgments and appraisals in terms of objective evidence.

But what is being done may be wrong. In industry the sales department soon learns whether or not the product is right. But in schools the soundness of the product is not so easily discovered. Again research must be employed to determine this and it must explore the fields of psychology, society and industry to get the facts. Are the schools putting into practice that which scientific contributions indicate ought to be put into practice?

Research Determines Standards

And then it must be determined how well things are being done. But measurements require standards. These standards must be determined by research. Then these standards must be used in research to determine achievement.

Research provides a continuous self-survey. The school organization within itself can check its own progress, can discover its mistakes, can direct its own changes and adjustments and can have the evidence to justify what it is doing.

Functional organization implies divisions. These divisions are interrelated. Some need of one division may be supplied by some other division.

A defect in the procedure of one division

may be revealed by some other division. The staff meeting is the place where the research findings of the various divisions are presented, analyzed, interpreted and allocated for adjustment.

In a functional school organization, scientific research should be considered as the agency through which objective information with respect to existing conditions may be secured; the relative value of existing means may be determined; policy and procedure may be developed, and appraisal may be made.

But research depends on records. "Records include all activity essential for the development of adequate and complete accounts for appraisal and archival purposes of every happening in the school system. In general these are derived or secondary records and include the fields of instruction, child accounting, finance, personnel, the school plant and public relations."¹

How records and research become a part of each activity is shown in Diagram 3.

Let us follow through a cycle of planning, executing and appraising.

How Policies Become Effective

Let it be assumed that objective data secured through the various divisions of the school system have been organized, analyzed and interpreted, and that the results justify a specific policy to be adopted by the board of education. Let such policy be adopted. The development of plans and means for making the policy effective is a part of the executive function. Let the policy be one affecting instruction. The department of creative instruction assumes the responsibility of formulating the plan. The steps are as follows: research data analyzed; tentative plan formulated; experimental work with teachers (creative) carried on; accurate records kept and results tabulated; such modifications made as results indicate and new experiments carried on; finally a plan is worked out; plan presented to staff for criticism and suggestions by all divisions affected, particularly finance, administrative and personnel; constructive criticism adjusted by objective data; plan finally worked out and approved by staff.

The superintendent then presents the formulated plan to the board in the following form: statement of the plan; its relation to policy; evidence upon which its selection and organization are based; a technique for determining the effectiveness of the operation of the plan.

Upon approval by the board, the plan on executive order is put into effect. This includes the

¹ The Public-School Code, Hamtramck, Michigan.

training of principals and teachers in purposes, methods and techniques.

After the plan has been in operation for a reasonable time, an appraisal is made, based upon objective evidence.

The superintendent then transmits a report to the board in the following form: a statement of the objectives; a statement of the techniques employed; a statement of the participating agents; an objective statement of the results secured; recommendations in respect to necessary changes in techniques, agents and agencies; a statement of the projected means of attaining the objectives in future practice.

Upon the basis of the evidence presented, the board of education may: (a) continue the policy and means in operation; (b) accept recommended changes in the means of achieving the policy or (c) change both policy and means.

Records and research have been presented as vital and indispensable parts of each functional division. The coordination of the use of the results of records and research has been presented as a staff function. In a large system there would be a necessity for special divisions of records and of research which would serve the system as a whole. The records would be secondary records and research would be concerned with the problems that affect the system as a whole.

A pertinent question may be raised as to whether the keeping of so many records requires too much time and so is wasted effort. Only records should be kept that serve useful purposes. The forms should be easily filled out. The forms should be so designed that they may be cumulative without duplication. A few minutes a day on the part of each agent in keeping records will suffice.

Opportunity for Initiative

The capability of each agent to do research work may be questioned. Each agent does not need to be a research specialist but does need to know the amount of progress he is making, to recognize problems that arise, to offer suggestions and to try these suggestions. This is the crux of the principle of democracy in school administration. Democracy provides for initiative and creative effort. Problems that an agent discovers but cannot solve may be turned over to division specialists whose business it is to find solutions to problems.

There is an oft repeated objection to the application of the methods of industry to education. It has been said that human beings cannot be treated as machines and a school cannot be made into a Ford factory. The objectors should under-

stand purposes and recognize achievement. Keeping records, conducting research, applying statistics and using curves are not for the purpose of treating human beings as machines but to discover how human beings should be treated because they are human. Research and experimentation are the very means by which remarkable progress has been made in the humanization of education during the past twenty years. Research and experimentation supplant custom and opinion. Research is forward looking. Research replaces guesses with facts. Research says: "Let's have more facts and less discussion."

Reducing Freshman Mortality by Increased Teaching Efficiency

By J. W. CRABTREE, SECRETARY, NATIONAL EDUCATION ASSOCIATION

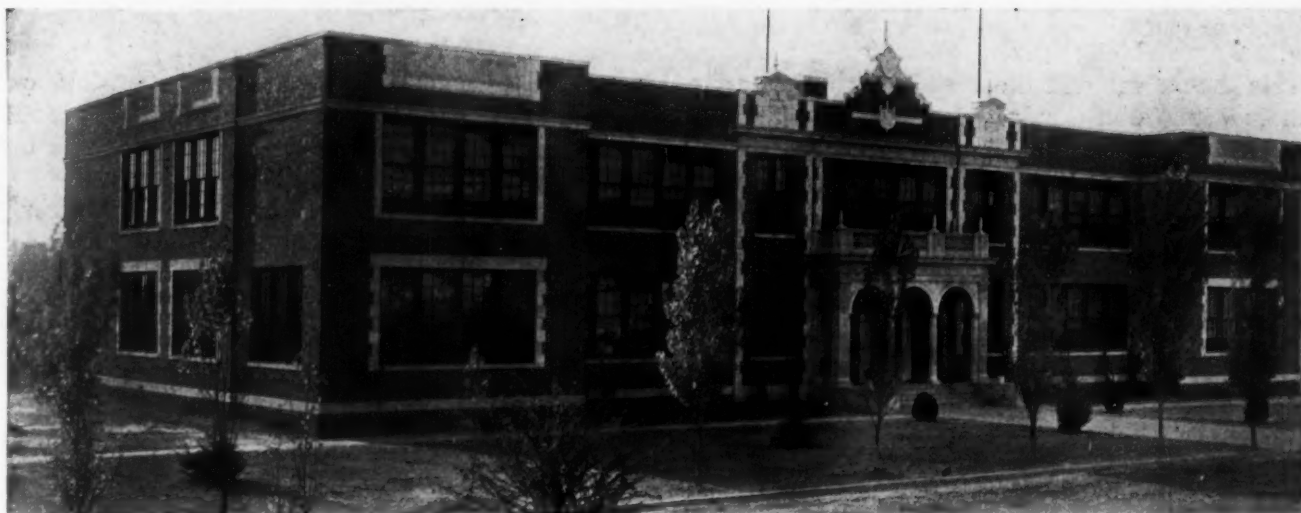
The staggering freshman mortality of recent years is largely due to inefficient teaching in the freshman year of college. It is surprising that the college can hold as many of its high class instructors as it does on present salary schedules. The effect is being felt, however, and with the continuance of low pay it must in the course of time be disastrous to the institutions of the country.

College instructors and professors constitute the worst paid group in the teaching profession. The seriousness of this financial maladjustment is readily appreciated when we take into account the fact that no group of teachers receives pay in proportion to the services rendered. College authorities are fully aware of this condition. They throw the responsibility for it on state legislatures and educational foundations. They claim that it is much easier to secure funds for buildings and equipment than for increasing the pay of professors.

I have sometimes wondered whether these authorities make the same determined effort for adequate pay for the staff that they make for a larger campus and for additional buildings. I wonder whether they realize as fully as they think they do that men and women, not buildings, make the college or university.

Should members of the legislature in each of forty states become convinced as I am convinced that freshman mortality could be greatly reduced by increasing the efficiency of the teaching staff, there is no question but that funds would be added to appropriations for the specific purpose of increasing salaries.

Is not the public about ready to sponsor a movement in behalf of the college professor?



One of the ten high-school buildings in Webster Parish, Louisiana.

How the County Unit System Enables the Board to Save Money*

To provide equal educational opportunities for rural and city children is society's responsibility and this can be achieved by applying businesslike methods to school procedures

BY E. S. RICHARDSON, SUPERINTENDENT, WEBSTER PARISH SCHOOLS, MINDEN, LA.

ON AN auto trip made recently through six Southern states I talked to many school men and citizens on prevailing school conditions in their respective communities. Some of the observations are significant for they seem to argue for larger units of school government, both as to administration and taxation.

A certain county has a total assessed wealth of fourteen millions of dollars. Twelve million of this wealth is in the city, the county seat; only two million of it is in the county outside the city limits. The same number of children of school age live outside the city limits as live in the county seat. The children of people who live in the county seat enjoy a modern first-class city school system. The county is divided into fifty-five small distinct school systems, all obviously very poor.

In another state, a certain college city has an assessment of fifty-eight millions of dollars. The county, excluding the city, has an assessed wealth of only twelve million. There live as many children of school age in the county outside the city as live in the city. In passing, I wish to say that

the city's actual wealth is attributed to the productive farms in the surrounding country. In the light of these observations, is there anything strange about the inadequate rural school facilities in the counties in which these two cities are located?

Another example of educational inequality is found in a certain progressive city in another state, which recently has erected a high-school building at a cost of \$1,500,000. This structure was built to accommodate 1,882 high-school pupils. The original cost of the building exceeds the total value of all school property, including all buildings and equipment for all white children living in fifteen neighboring counties. In these counties live 56,235 children.

In the trade territory near the cities mentioned above, I soon discovered that the country children had been penalized because they had not been born in one of the near-by cities. This fact was evidenced by the number of antiquated, dilapidated, one, two and three-room school buildings. These gave mute evidence that democracy in education in that territory was a farce.

All the cities and towns in the area I visited boasted of the efficiency of their schools. Both

*An address delivered before the Texas State Teachers' Association, San Antonio, Texas, November, 1928.

school officials and citizens spoke of the superior advantages being given their children, their trained teachers and the breadth and richness of their courses of study. No mention, however, was made by them of the thousands of country children on the farms just outside the gates of their cities, who, for lack of funds and in accordance with the prevailing district school system, are forced to attend school in their miserable little schoolhouses where incompetent teachers teach for a short time.

When such glaring inequalities exist almost in sight of our American cities and towns, I see no ray of hope for the education of the farmers' children until the whole scheme of school machinery is changed, and placed on a permanent democratic workable businesslike basis, with larger units of taxation and administration, embracing cities and towns. Such flagrant discrimination in educational opportunity between urban and rural children is daily growing greater.

Rural School Machinery Not Up to Date

In the last decade the nation's wealth has been concentrated in the cities and towns. Comparatively little is left in the country to support public education. During this transitory period, however, our school administrative machinery has not been changed one iota in many states to meet present day demands. In the name of democracy we still cling to the old idea that each community, without regard to its wealth or size, should finance and administer its schools. The tenacity with

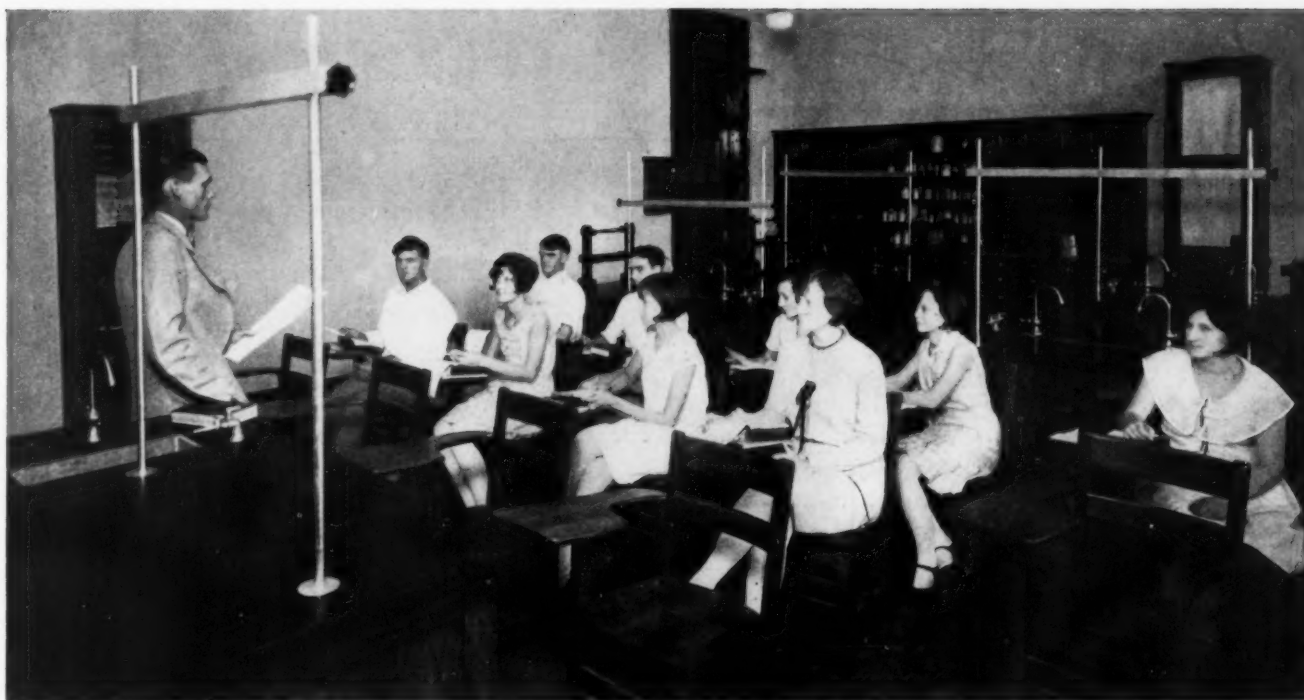
which some of our leading educators hold fast to the old order of things is pathetic, even tragic, when we think how the continued operation of this antiquated school machinery is literally cheating thousands of country boys and girls out of their just heritage.

During the past few years, in spite of the constant efforts put forth in the organization and promotion of boys' and girls' agricultural club work by the federal government, cooperating with the A. and M. colleges, the standardization and supervision of rural schools by the state departments of education, the help and support given to the farmers by the chambers of commerce and service clubs and the special courses of study for farmers' children prepared by experts in rural education in our universities and agricultural colleges, in spite of the operation of all these combined forces, peasantry is increasing in America at an alarming rate. I am told that in this state peasantry is increasing at the rate of 8 per cent every five years. I do not wish to minimize in any way the work accomplished by the above agencies. The farmer's child really needs what the banker's child needs, a real school that really teaches boys and girls to think. Nothing short of this will suffice.

In the September, 1928, number of *World's Work*, Prof. T. N. Carver of Harvard University, an authority on agricultural economics, writes on the general rural situation, contending that America's greatest rural needs are schools, hospitals and roads. The greatest of these, he says, is



The study hall and library in one of the country schools.



The chemical laboratory in one of the Webster Parish schools.

schools. He also says that the largest single factor in American life is the school. He further states that the greatest single advantage of living in the city over living in the country is the superiority of the city schools over those in the country. He says that the greatest single thing that could be done toward making country life as attractive as city life would be to place within the reach of every country child as good a school as is provided for the city child.

Webster Parish has reached the goal that Doctor Carver has mentioned so far as education is concerned. There is nothing phenomenal or outstanding about any individual school in this parish, either in the matter of buildings, equipment or courses of study. Webster's schools, however, are outstanding in this single respect, that the real intent of those who framed both our state and national constitutions is being carried out to the letter in the operation of these schools insofar as all the children are being given the same opportunity.

This democratic transformation of Webster's schools has been brought about gradually, after careful planning with a definite end in view. January 1, 1921, found Webster with a parishwide tax of five mills for school maintenance, with one large and three small high schools and with thirty-five one and two-room schools. Most of these were located in a rather haphazard way—some on dry weather roads, others on no roads at all.

During the year, a careful survey was made of the parish schools with a view to inaugurating a

businesslike program of consolidation, on a parishwide basis, a program that when achieved would enable every child in the parish to live at home and at the same time be given the same advantages that the parish was giving a few fortunate children who happened to live near one of the high schools. This program also contemplated that the wealthy centers would assist in the maintenance of the schools in the poorer communities.

Program Inaugurated Seven Years Ago

The plan was presented to the parish board where it met with unanimous approval. From that time until now, with a constantly changing personnel on the board, not a single vote has been cast against the original program inaugurated by the board in 1921. In view of the road conditions at that time and the existence of many small communities, the board's plan seemed a little ambitious and impracticable. Many citizens prophesied failure and bankruptcy of the parish. The idea of "Equal Educational Opportunities for All the Children" had to be "sold" to the people gradually. The story is too long to relate, covering seven years of hard work and careful manipulation by school officials, but the people soon caught the idea and are now heartily in favor of the parishwide program.

During these years under the county unit form of school government, Webster Parish schools have attained the following standards of efficiency: To-day there are ten high-school centers

instead of thirty-nine. Each community enjoys a commodious modern up-to-date school plant, each on a site ranging from eight to thirty acres. All buildings are brick except one, which is a wooden building but modern in every respect. All buildings are electrically lighted, steam heated, equipped with sanitary appliances, hot and cold baths, furnished with deep well water served through sanitary drinking fountains. Principals' homes are being provided. All have been completed except two.

Each school is in charge of a competent trained principal of known educational leadership and ability, who is required to devote at least one-third of his time to actual classroom supervision. The children are being taught by competent faculties who are paid according to a uniform salary schedule. Teachers are carefully selected and are supervised by competent supervisors. Elementary teachers are required by law to have had at least two years of teacher training work after graduation from a four-year high school. Teachers of high-school subjects are required to hold college diplomas. Elementary teachers have charge of not more than one grade.

Children Transported to and From School

In order to give all the children of the parish the advantages of such schools and equipment as are mentioned above, fifty-three auto transfer school busses, with a capacity ranging from thirty-five to seventy-five persons, have been provided by the parish school board to bring children from the farm homes that are over two miles from the schools. This organized plan makes it possible to have all children, both urban and rural, taught by teachers of the type mentioned above, under the direction and supervision of trained principals. The children are comfortably seated in classrooms equipped with the necessary teaching materials for the respective grades, where copies of famous paintings hang on the walls of the classrooms, where proper lighting and ventilation have been scientifically planned for by a capable architect.

The health of the children of Webster is carefully guarded by an efficient health staff, and extra food is provided for malnourished children. Serums for the most common local preventable diseases are supplied free. Besides this, the sanitary staff furnishes to the school board monthly a definite sanitary report on each of the school plants. This additional important service to all the schools is made possible by the county unit organization of school administration.

The farmers of Webster Parish are greatly pleased with the new order of things, for their children can receive the advantages of high-school

training without having to be boarded or moved to town. At night the children are around their own firesides, where they should be, and at the same time they are getting the same type of training as is being given the children of the merchants, bankers and business men in the towns and cities.

In addition, the farms have greatly increased in value because of the parishwide school organization. The bankers and merchants are pleased because the country and town are now one and the same great community. Urban and rural prejudices have been eliminated, corporation lines about cities and villages are no longer dead lines for country people. The inferiority complex that was so pronounced among the country people has been eliminated as a result of this organized program.

We have only one superintendent to the county (parish) in Louisiana. There are no subdivisions in school administration. The schools in the country enjoy the same standard of supervision as do the schools in the city. The child in the country bears the same relation to the school board and parish superintendent and supervisory force as does the child in the town or city.

It is readily seen in the centralized county unit system there is no duplication of effort in school administration. The parish board of Webster is composed of seven members, elected by the people for a period of six years. One-third of these go out every two years, which makes our board stable and free from politics. The election of school-board members is not held at the time of the general election but at the time of the congressional election, when local politics are not so active. The parish superintendent is the secretary-treasurer of the board. He nominates all teachers and appoints the office staff and all supervisors, all nominations being subject to the approval of the board. The board meets once a month and transacts such business as is necessary.

Why Not Be Businesslike?

The county unit method of operating schools is simply the application of business methods to school procedure. Why should not business methods be applied to administering public education? Can we expect to get the best results educationally for the taxpayers' money when we continue to operate schools of the present day on the antiquated system of twenty-five years ago? Can we expect to organize and supervise our schools properly, having for the unit of administration so small an area as a township or district? Certainly we cannot expect to have many laymen living in every township or district who are capable of judging the ability of the teacher or passing on the efficiency of the school.

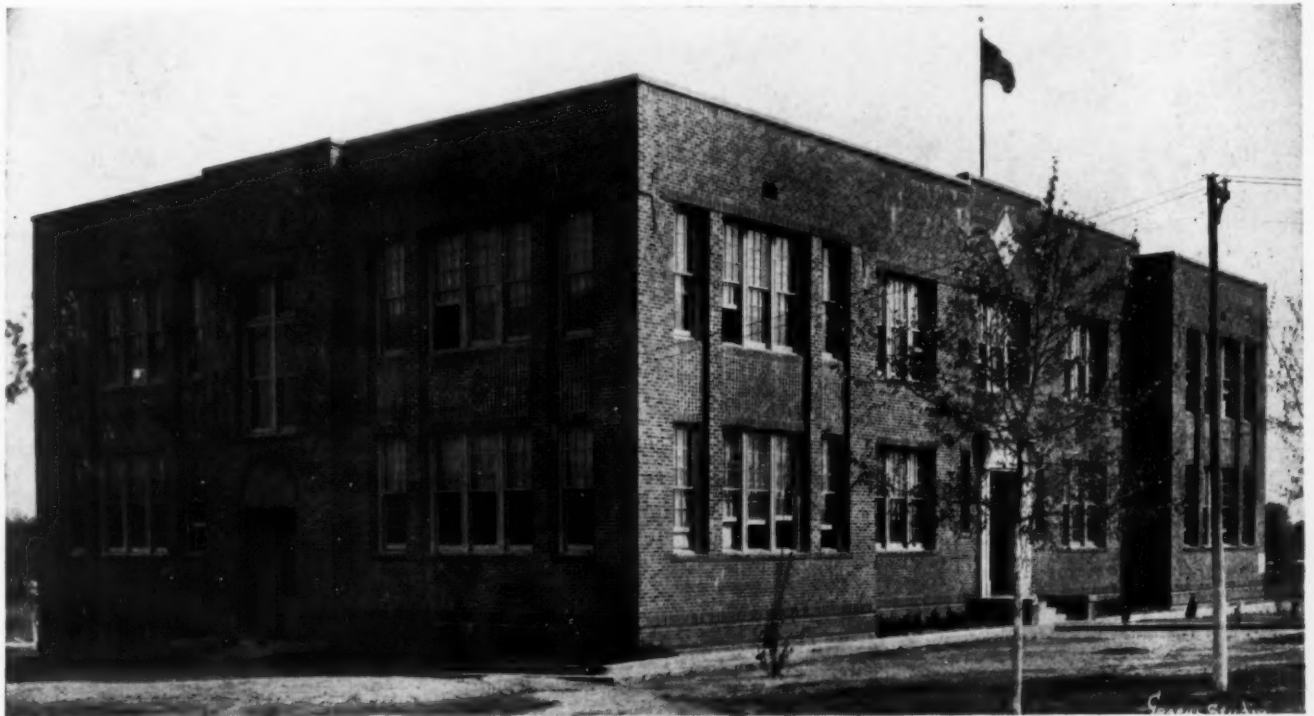


Baby clinic in country school, Evergreen, La., under the direction of the parish health official.

In addition to giving to both urban and rural children of the parish the same educational advantages, the patrons and taxpayers themselves are saved thousands of dollars annually by a reduction in overhead expenses in the matter of handling of all funds, purchasing of supplies, furniture and equipment in large quantities. We save \$1,000 annually to the taxpayers of Webster in insurance alone. In addition to this saving, all

school property is insured for its full value instead of for two-thirds its value. The full value insurance saved one community \$15,000 last year when they lost their building by fire.

We save from \$1 to \$1.25 on all desks and chairs purchased. This is quite an item when we take into consideration that it takes more than 8,000 chairs and desks to seat the children of the entire parish. In the same way money is saved



A country school building at Sibley, La.

on floor oils, architects' fees, and in fact on everything that schools use. The county unit of administration enables the board to save the taxpayers thousands of dollars because of the uniformity of buildings and standardization of equipment.

At Minden, the capital of the parish, the board has a large fireproof general store and warehouse, where all supplies are purchased in large quantities and delivered to the schools as needed. Books, tablets, ink and pencils are kept on hand. All schools in Webster open the same day of the month. Before the opening day every school is provided with all necessary supplies, which enables the children of the parish to begin real work on the first day. No time is lost. Why waste valuable time at the expense of the taxpayers? Part of the profits made on supplies is used in defraying the expenses of the construction foreman whose duty is to keep the buildings in repair.

The county unit of school government may be considered by some to be undemocratic, but any fair-minded person must admit that too much so-called democracy of the smoke screen variety used by politicians in school management often brings about chaotic school conditions, and as a result children suffer. Suppose the important matter of school consolidation in the thirty-nine communities mentioned above in Webster Parish had been left entirely to the volition and initiative of the people of these communities without direction, friendly guidance or school leadership. When would the schools of Webster have attained their present high standard of efficiency? Perhaps never. Shall our people stand pat on a narrow-minded interpretation of democracy in relation to school administration and by so doing cheat the rural children out of their just heritage? May the time soon come when society will be more interested in the educational welfare of the child than in the ultrademocratic form of school government. When our lawmakers and educational leaders give a wider interpretation to the meaning of democracy educationally, when they interpret its meaning in terms of society's responsibility to the child, then will Webster's slogan prevail throughout America, "Equal educational opportunities for all the children of the country at equal cost."

Determining the Needs of a School Building Program

How may the needs of a school building program be determined? Some of the practices commonly followed are here outlined:

I. Five distinct factors confront the superintendent and the board of school trustees who are

developing a scientific school building program: (1) the population served, (2) the existing school plant, (3) the ultimate school plant, (4) the money available to pay for the proposed extensions and (5) selling of program to the public.

Under the heading of the population served will come city zoning, map studies of population and growth, the mathematical formula method and a composite plan summarization. Under "existing school plant" will come the problem of assimilating the present and existing school plant into the new plan and the problem of old buildings.

The ultimate school plant will include plans based upon the educational policy of the community to be served, the power of the new educational facilities to attract and to hold pupils, the retentive power of the curriculum, methods of instruction and the plan of administration.

Availability of the money to pay for the proposed extensions will include a study of the ability of a community to pay for needed extensions and a building program which involves the study of many factors affecting the finances of the community, comparisons with other cities to determine whether the community is doing what it should for education and a determination of school costs.

Selling the program to the public will depend upon the essentials of the organization, the leadership and facts for distribution and the publicity campaign.

II. Curricular expansion, with its consequent demand for additional facilities and the diversification of these facilities, has brought the present day school building, although a highly specialized problem, into rank with the most important and interesting of architectural problems.

Play Is Vital in Conserving the Teacher's Health

The importance of recreation in conserving the health of teachers is emphasized following a study of the teacher's health by Dr. Thomas D. Wood, J. W. Brister and Olive Jones.

"Play as a means of self-release and self-expression is probably more necessary to teachers than to any other group of people," the committee finds. "In the classroom and in many of their outside activities they are under the restraint of feeling that their conduct is watched closely and that they must be models of decorum and personality patterns for the young. Insufficient recreation, undue absorption in their occupation and restricted outside interests are the shortcomings of many teachers."

The Taxpayers' Load—Is It Properly Distributed?

One of the significant factors to be considered in the problem of the economic support of the schools is the relation of assessed to sales value of real property

BY T. C. HOLY, OHIO STATE UNIVERSITY

THE problem of school support is an ever present one. On one hand, we hear the economic structure of the nation cannot bear the increasing burden of public education, while on the other, equally positive statements are made to the effect that we have not yet approached the proportion of the total national income that can profitably be expended for educational support.

When one considers that in 1924 only 2.74 per cent¹ of the total national income was expended for all public elementary and secondary education, and only 3.24 per cent for education of all types, both public and private, it does not seem that too great strain is being imposed on the nation's economic fabric for the cause of education. It is said that a famous French philosopher once remarked that taxation was the art of plucking the maximum number of feathers from a goose with the minimum amount of squawking. The proponents of the theory that the nation is able greatly to increase its expenditures for education contend that there are vast potential sources of income that should contribute to public enterprises that have not been utilized, and that these sources recognize their obligation and would contribute with a minimum of opposition. Since, however, these potential sources have not yet been tapped, so to speak, it is necessary in discussing any phase of the problem of school support to take conditions as they now exist.

The major factor to be considered in problems relating to school support is the taxable wealth on which is levied the property tax of the local district. The significance of the income derived from the local property tax is found in the figures contained in the United States Bureau of Education Bulletin No. 29, 1922, for the state of West Virginia, the state under consideration in this study. According to the report, the sources of educational revenue for the year 1921 were distributed as follows: state, 4.5 per cent; county,

.4 per cent; local, 95.1 per cent. Inasmuch as practically all of the local support is derived from the property tax, the importance of this source at once becomes evident.

The returns to a given district from the property tax are conditioned by two factors, namely, the amount of taxable wealth and the rate of taxation. Since the rate of taxation is calculated on the basis of the taxable wealth as related to the amount to be raised, the taxable wealth becomes the important factor. Assuming then, the significance of the taxable wealth, the question of its determination next arises.

Difference Between Assessed and Sales Value

In many states this taxable wealth represents in theory the actual value of the property less certain types of exempted property. It has long been a matter of common knowledge that such is not the case, and that the relation between the assessed value of property and its actual worth as represented by its sales value varies widely. Lindsay¹ found in 1,591 transfers made in seventy-eight different towns in Iowa in 1921, that their total sales value was \$5,592,486.80, while the assessed value was \$2,476,614.00, or 44.2 per cent of the actual value. He further found that the average ratio between these two factors, when divided into nine groups of selling prices between \$100 and \$7,500, ranged from 71.2 per cent for properties selling below \$500 to 37 per cent for those selling from \$5,000 to \$7,499. In other words, the ratio between the selling price and assessed value of properties selling below \$500 was nearly twice as high as those selling between \$5,000 and \$7,499.

In a study of Chickasaw County, Iowa, over a period of fifty years, Woods² found a range of 0.18 to 2,640 per cent between these two factors, while for the single year of 1880, there was a range of 3.3 to 2,640 per cent, with the middle

¹ Research Bulletin, National Education Association, Vol. IV, No. 5, November, 1926, page 240.

² Lindsay, E. E., Iowa School Taxation, Educational Administration and Supervision, Vol. VIII, pp. 65-79, Feb., 1922.

³ Woods, Roy C., Taxation and County School Support, American School Board Journal, pp. 59-60, Sept., 1928.

50 per cent extending from 13.7 to 97.3 per cent of the actual transfer value.

In the city of Davenport, Ia., the average ratio between actual selling price and assessed value for taxation purposes was found to have decreased from 77.5 per cent in 1901 to 45.7 per cent in 1924.³ The findings reported above are indicative of the conditions generally found to exist where analyses of the relationship between the taxable and actual transfer value of property have been made.

So far as the individual taxpayer is concerned, it would make no difference whether the ratio of actual to assessed value were 10, 50 or even 100 per cent, provided the same ratio were maintained throughout the entire taxing unit. Due to the fact that all states levy some direct state taxes, the taxing unit must include the entire state.

record, reference, names of parties concerned and certain other items of information. These records for the transfers within the city limits and the portion of the school district lying outside the city have been separately filed, thereby giving complete data for each of the areas.

Within recent years, the practice has become quite common of omitting the actual amount to be paid for the property, substituting in lieu thereof such statements as, "For one dollar and other valuable considerations, I do hereby sell and convey." As a result of this practice, investigators endeavoring to ascertain actual selling prices as a means of determining relationships between assessed and real values of property have been forced to find some means other than the deeds of transfer. The Federal Stamp Act, the substance of which is included in the follow-

TABLE I—THE DISTRIBUTION OF THE RATIOS OF ASSESSED VALUES TO SELLING PRICES OF 732 REAL ESTATE TRANSFERS IN PARKERSBURG SCHOOL DISTRICT DURING THE YEAR 1925

Ratios of Assessed Value to Selling Price	Within City		Outside City		Grand Totals	
	Number of Cases	% of Total	Number of Cases	% of Total	Number of Cases	% of Total
120—124.9	7	1.82	..	....	7	.96
115—119.9	3	.79	..	....	3	.40
110—114.9	4	1.07	..	....	4	.55
105—109.9	6	1.55	6	1.73	12	1.63
100—104.9	9	2.35	16	4.65	25	3.41
95—99.9	5	1.29	6	1.72	11	1.55
90—94.9	21	5.45	9	2.59	30	4.11
85—89.9	41	10.65	14	4.04	55	7.58
80—84.9	78	20.25	78	22.47	156	21.31
75—79.9	32	8.31	20	5.76	52	7.10
70—74.9	43	11.16	24	6.91	66	9.20
65—69.9	57	14.80	37	10.66	93	12.84
60—64.9	26	6.75	52	14.98	78	10.65
55—59.9	24	6.23	6	1.72	29	3.96
50—54.9	14	3.63	32	9.22	46	6.28
45—49.9	3	.79	11	3.18	14	1.92
40—44.9	5	1.29	30	8.64	35	4.78
Below 40	7	1.82	6	1.73	13	1.77
Total	385	100.00	347	100.00	732	100.00

The wide variations in ratios noted above, with their consequent injustice to individual taxpayers, emphasize the oft repeated need of revision of our taxing system. Continued reference to these wide differences is one means of focusing attention on this obvious need. With this purpose in mind, then, the data that follow are on the relation of actual sales value to assessed values.

In connection with a school building survey recently made for the school district of Parkersburg, W. Va., there was found in the assessor's office a complete record of all real estate transfers for a period of several years. The present population of the district is estimated at 33,000, 10,000 of whom live outside the corporate limits of the city. Each real estate transfer has been recorded on a separate card, giving description,

ing quotation, has furnished the means frequently used:

Section 1107, Session I, Chapter 136. United States Statutes at Large, Vol. 42, Part I, Public Laws, pp. 305:

"6. Conveyances: Deed, instrument, or writing, whereby any lands, tenements, or other realty sold shall be granted, assigned, transferred, or otherwise conveyed to, or vested in, the purchase or purchases, or any other person or persons, by his, her, or their direction, when the consideration or value of the interest or property conveyed, exclusive of the value of any lien or encumbrance, remaining thereon at the time of sale, exceeds \$100 and does not exceed \$500, fifty cents; and for each additional \$500 or fraction thereof, fifty cents. This subdivision shall not apply to any instrument or writing given to secure a debt."

Since the individual transfer record cards in-

³ Packer, E. C., et al, Davenport School Plant Program, p. 72, 1925.

TABLE II—THE EFFECT OF SELLING PRICE ON THE ASSESSED VALUE OF 387 TRANSFERS WITHIN THE CORPORATE LIMITS OF PARKERSBURG, FOR THE YEAR 1925

<i>Selling Price</i>	<i>Number of Cases</i>	<i>% of Total</i>	<i>Average Ratio of Assessed Value to Selling Price</i>	<i>Range of Ratios</i>
10,000 and above	30	7.75	76.72	13.6—105.2
9,000 to 9,999	7	1.80	88.70	75.7—113.5
8,000 to 8,999	7	1.80	75.37	60.6—100.0
7,000 to 7,999	9	2.32	78.51	69.0—90.3
6,000 to 6,999	16	4.13	73.10	56.0—88.9
5,000 to 5,999	36	9.30	80.60	53.9—118.3
4,000 to 4,999	50	12.96	73.74	30.6—94.7
3,000 to 3,999	41	10.59	77.49	16.0—116.9
2,000 to 2,999	52	13.44	78.66	40.0—109.1
1,000 to 1,999	80	20.67	70.30	14.3—120.0
Less than 1,000	59	15.24	75.08	14.7—120.0
Total Cases	387	100.00	77.12 Average	

cluded the amount for revenue stamps, it was possible to get a close approximation of the actual selling prices. In calculating these figures, the middle of the \$500 step was taken as follows: If fifty cents were paid for revenue stamps, a \$250 value was used; if one dollar, \$750. However, due to the fact that this law was repealed during 1926, it was necessary to take the transfers for the last complete year of record, 1925.

In all, there were complete data on 732 separate real estate transfers, 385 of which were within the city of Parkersburg, and 347 in that portion of the school district lying outside the corporate limits of the city. The distribution of these on the basis of the relationship between the assessed value and selling price both within and without the city is shown in Table I. It will be observed from the table that there were thirteen cases, seven within and six without the city, in which the assessed value was less than 40 per cent of the selling price, and seven cases where this ratio was between 120 and 125 per cent, or more than three times that of the lowest group.

On this basis, the taxpayers in the latter group whose property sold at \$5,000 paid approximately

the same amount of taxes as those whose property sold at \$15,000. It will be further observed that the mode both within and without the city falls in the 80 to 84.9 per cent step, the percentage in the city amounting to 20.25 per cent and 22.47 per cent outside the city limits. In the main, the distributions within the two classifications parallel closely, which indicates that the same standard of assessment has been rather closely adhered to in both groups.

Lindsay, as pointed out earlier in the discussion, found that the ratio of assessed to actual values in properties selling below \$500 was approximately twice as high as those selling between \$5,000 and \$7,499. In other words, the smaller the property, the higher the assessment as compared with the actual value measured by the selling price.

In order to ascertain whether a similar situation existed in the Parkersburg school district, Table II has been prepared, showing the 387 transfers that were made within the corporate limits of the city during the year covered by the study, distributed on the basis of the selling prices. There is also included the average ratio

TABLE III—THE EFFECT OF SELLING PRICE ON THE ASSESSED VALUE OF 345 TRANSFERS LOCATED OUTSIDE THE CITY LIMITS OF PARKERSBURG SCHOOL DISTRICT FOR THE YEAR 1925

<i>Selling Price</i>	<i>Number of Cases</i>	<i>% of Total</i>	<i>Average Ratio of Assessed Value to Selling Price</i>	<i>Range of Ratios</i>
10,000 and above	1	.28	81.00	81.0
9,000 to 9,999	0	.00	0	0
8,000 to 8,999	0	.00	0	0
7,000 to 7,999	1	.28	72.30	72.3
6,000 to 6,999	3	.86	71.10	70.4—72.0
5,000 to 5,999	5	1.48	76.94	72.4—85.7
4,000 to 4,999	18	5.22	76.18	52.6—105.9
3,000 to 3,999	19	5.51	74.55	61.5—86.2
2,000 to 2,999	38	11.01	75.18	53.3—94.5
1,000 to 1,999	62	17.97	66.60	17.1—108.6
Less than 1,000	198	57.39	66.68	32.0—108.0
Total Cases	345	100.00	60.05 Average	

of assessed value to selling price and the range of ratios for each of the eleven groups into which the actual sales values have been classified. This table should be read as follows: 30 cases or 7.75 per cent of the total number sold for \$10,000 or above; the average ratio of assessed to sales value was 76.72 per cent with a range of 13.5 to 105.2 per cent. From the table it will be seen that the selling price has had little effect on the average ratio of assessed value to selling price. The average for all groups is 77.12 with the highest falling in the \$9,000 to \$9,999 and the lowest in the \$1,000 to \$1,999, which group is also the mode for the distribution.

Although there is little difference in the average ratios by selling price groups, there is a wide difference within the individual group as noted from the range of ratios. In the group selling for \$10,000 and above, the highest ratio is almost exactly eight times that of the lowest, while in the group of properties selling for less than \$1,000, the property assessed highest has a ratio of assessed to actual sales value of more than eight and one-half times that of the property assessed lowest.

Better Distribution of Tax Burden Needed

The material presented in Table II related only to transfers within the city proper. The same data for the 345 transfers outside the city limits are shown in Table III. It will be seen from this table that the average ratio for the rural areas outside the city limits is 60.05 per cent, or more than 17 per cent less than for the city. The highest ratio, although only a single case, is found in the \$10,000 classification, a situation similar to that found to obtain in the city transfers. The mode of the distribution is in the "less than \$1,000 group," which has with a single exception, and that only a minor difference, the lowest average ratio of assessed to actual values of any of the groups.

In the matter of the average ratios by groups, it will be seen that with two exceptions there has been a steady decrease of the average of assessed to sales value, paralleling the decrease in selling price. In other words, the lower priced properties paid less than their proportion of the taxes levied on the entire group. In general, the range of ratios is considerably less than that found in the city. In the seven groups having more than a single case, in but two is the high more than twice the low, a situation in marked contrast to transfers within the city. This probably means that assessors are better able to determine values in the sections outside the city because the properties in that area consist mainly of resi-

dences, vacant lots and farm lands with little business and industrial property.

The injustice to the individual taxpayer is obvious from an analysis of the foregoing data. The need of a more equitable method of distributing the tax burden has long been realized. The chief motive in presenting these data was to offer additional evidence of the urgent need for a thorough revision of the whole system of public taxation with a view to proper distribution of the load that taxpayers bear.

Cooperative or Independent Student Government—Which?

Student government at Colorado State Teachers College, Greeley, has demonstrated that cooperative government in the regulation and promotion of student affairs is to be preferred to any attempts at independent student government, according to an article in *Educational Administration and Supervision* by President George Willard Frasier and William Lawrence Wrinkle, principal, Teachers College High School.

Other generalizations reached in the study included:

Membership in a student association having as its purpose the regulation and promotion of student affairs should be compulsory and should include all students.

Student government is promoted and perpetuated largely by a small minority of the students, chiefly those whose election to office has created in them a feeling of responsibility. The degree of success or failure may be attributed largely to the type of officers elected, particularly the president and general manager.

There is a tendency to elect officers on a basis of popularity regardless of ability. A higher type of class organization is necessary to offset this, especially in the election of class officers and representatives to the council.

Student publications should be jointly directed by a board having both faculty and student representation.

Financial control by the college should be exercised by a careful observation and regulation of student finances, particularly with respect to the auditing of organization accounts and similar matters.

The office of general business manager should not be subject to annual election but should be of a more permanent nature thereby affording a greater continuity of policies.

Student conduct is better controlled by faculty than by students.

Keeping Within the Budget

A budget chart affords a means of inspecting disbursements with accuracy and speed and is helpful to the superintendent in aiding him to control expenditures

BY HARLIE GARVER, SUPERINTENDENT OF SCHOOLS, UNION CITY, IND.

IN SCHOOL systems not large enough to justify a business manager, the superintendent usually finds it difficult to keep within the budget, because he lacks a suitable method of inspecting expenditures without using an undue amount of time. The chart pictured herewith is offered as a means of controlling expenditures accurately with the use of only a few minutes monthly.

In most school systems, especially when claims are allowed by a school board, accounts are paid monthly. This usually makes it convenient to

post accounts monthly, and in following good practice, books should also be checked and balanced at the same time. It so happens that in the state in which this is written expenditures are posted in the disbursement ledger according to function, and in "Accounts," lettered from A to I, with subheadings for the various columns of each function. Because this system is rapidly coming into general use the function headings and code numbers are used on the chart. It will be found easy to substitute local account and

column headings.

The specific aim of the chart is to keep before the official a record of disbursements in detail. I have tried the graph idea, but this does not supply concrete figures, nor does it show expenditures by the month in a way that will be helpful. The chart presented here shows not only how expenditures are progressing, but also when excessive obligations are incurred. It has been found also that it is not sufficient

BUDGET CONTROL

Code	Heading	Dec.	Jan.	Approp.	Excess or Saving
A c	Administr'n Supplies	63 84	88 22	300 00	
d	Other Expenses	163 22	163 22	290 00	
B 4	Teaching Instructional Supplies	104 07	115 01	190 00	
6	Other Expenses	100 10	121 25	425 00	
D 2	Operation Coal and Gas	15 54	18 69	1850 00	
3	" Water	107 34	107 34	180 00	
4	Light and Power	131 30	196 70	600 00	
5	Janitor Supplies	225 78	271 35	500 00	
7	Services Other Than Personal	29 85	65 55	150 00	
E 1	Maintenance Upkeep of Grounds	38 63	49 13	50 00	
2	Labor-Repair & Replac. Bldgs.	106 13	124 98	350 00	
3	Material- " " "	31 87	31 87	175 00	
4	Labor-R.&R., Htg. Ltg. Plbg.	61 93	89 08	250 00	
5	Material- " " " "	57 80	65 76	125 00	
6	Repair & Replac. Instruct. Appar.	11 00	167 20	300 00	
7	Repair & Replac. Furniture	7 90	18 30	70 00	
8	R.&R. Other Equipment	6 07	6 07	50 00	
F 2	Fixed Charges Insurance	23 70	575 81	1000 00	
5	Contingencies			500 00	
G 2	Coord. Agencies Repair & Replac. Books	40 90	43 40	65 00	
6	Other Expenses			20 00	
7	New Books	137 56	185 27	300 00	
I 2	Capital Outlay Improvement of Lands	109 45	109 45	150 00	
8	Alteration of Bldgs.	175 59	190 44	400 00	
9	Equipmt-Htg. Ltg. Plbg.	76 23	94 23	150 00	
10	Equipmt-Furniture	247 74	249 69	300 00	
11	Equipmt-Instructional Appar.	141 05	164 65	900 00	
12	Other Expenses			300 00	

to record totals by function because they are sometimes misleading. Thus, failure to hire one or two teachers anticipated in the budget may show Account B in excellent condition, when in reality "Instructional Supplies" may be greatly exceeding the estimate.

Entries to Appear on the Chart

In making the chart a piece of artist's Bristol board about fifteen inches square will be found excellent. Twelve columns should be included for the monthly entries. Only two are shown here. The column next to the right carries the estimates for the year as given in the budget, while the last is for use at the end of the year in showing the actual condition of each code heading. Several items are not included, such as administration salaries, teachers' salaries, bond retirements, because these items are generally fixed. All other items, however, that can be controlled from the office, should have a place assigned to them on the chart.

In recording disbursements, which should be totals to date, those that are proceeding at a normal rate should be set down in black ink, while those approaching the danger point should be indicated in red. Then, too, because actual obligations incurred are more important than disbursements, I have adopted the idea of setting down lightly, in pencil, in the next month's column, the total of purchases made. In this way the chart is always up to date. In the last column it will be found convenient to indicate in black the amounts short of appropriation, and in red, those in excess.

How to Interpret the Chart

Interpretation of the chart is easy, and is often valuable in explaining unusual conditions in various accounts. For instance, D 2 shows almost nothing expended because most of the year's supply of coal was purchased last Spring before the end of the fiscal year. Again, D 4 is in excellent condition because of good weather which kept down light bills, and because of a strenuous campaign to cut down useless expense in this respect. D 5, "Janitor Supplies," while normal in appearance, shows economy because most of the year's supplies have been purchased. Accounts E 1 and I 10 should be shown in red, because they are nearing the danger point.

The chart is probably found of greatest value at the end of the fiscal year when the new budget is planned, as an inspection of the various items reveals much of value in estimating needs for the next year and in controlling the various expenditures.

How Other Countries Provide for Education

Recent appropriations for education made from national funds by the several central governments, as shown in the budgets proposed, are on a fairly high level, both in absolute amounts, and in their relation to the total expenditures for all governmental purposes, according to a study made by the U. S. Bureau of Education.

In England and Wales the board of education estimated for the year 1925-26 an expenditure of £58,250,000 on elementary education and £12,000,000 on higher education.

In Belgium the ministry of science and arts reports that the communes, provinces and national government expended for primary education in 1925, 24,439,100 francs.

Education's Place in Europe's Budget

The older countries of Europe are generally setting apart the greatest sums for debt service and national defense, and education comes third in the list. However, in the Netherlands the largest single item in the budget is for education; in Norway it is second, after debt service; in Sweden, second after defense. In France, Italy, Denmark and Hungary, education is third; in Bulgaria, it is fourth. The newly created national entities of Europe are having to spend freely for development work, such as building roads and railroads and establishing means of rapid communication. Education in these countries usually holds fourth place in the budget.

In the far eastern countries large budget deficits seldom occur because the governments are conservative in their estimates. In Japan, in 1924, the allocation for education was 73,591,000 yen or 14 per cent of the total expended. The budget for Siam, in 1924-25, carried an appropriation for education of 1,390,319 ticals. The rate of exchange for a tical is about 37 cents. The Federated Malay States in 1924, expended £210,155 for education; during the same period Australia, through its separate states, appropriated 9,082,858 pounds.

The South American republics, while under the necessity of making large expenditures to develop their natural resources, materially increased the annual appropriations for education. In 1926, Argentina budgeted 135,321,710 paper pesos for education; Bolivia, 4,511,305 bolivianos; Chile, 140,663,638 paper pesos; Colombia, 3,530,896 pesos; Ecuador, 6,708,062 sucres; Paraguay, 44,336,948 paper pesos; Peru, 1,559,432 libras; Uruguay, 6,525,000 pesos; Venezuela, 5,397,478 bolivars.

Psychology Applied to School Publicity

The rules for attracting attention, arousing interest and fixing impressions used in the field of commercial advertising can be successfully applied in the educational field

BY W. W. THEISEN, ASSISTANT SUPERINTENDENT OF SCHOOLS, MILWAUKEE

TO WHAT extent is educational progress the result of publicity? A frank answer to this question would, I believe, go a long way toward revealing to us the secrets of our educational advances.

How do teachers come to accept new departures in teaching methods or new schemes of curriculum organization? How do we get pupils to accept many of our pet educational ideas, how do we get

them to read books, how do we lead them to form ideals for their own conduct? How are men led into voting approval of increased taxes for schools? The answer to these questions would probably show that a very important, if not the most important, factor in leading teachers, pupils, and citizens to accept our ideas is publicity. Publicity breaks the intellectual sod and publicity tills that sod until educational ideas germinate,

Courtesy Chicago
Daily News.

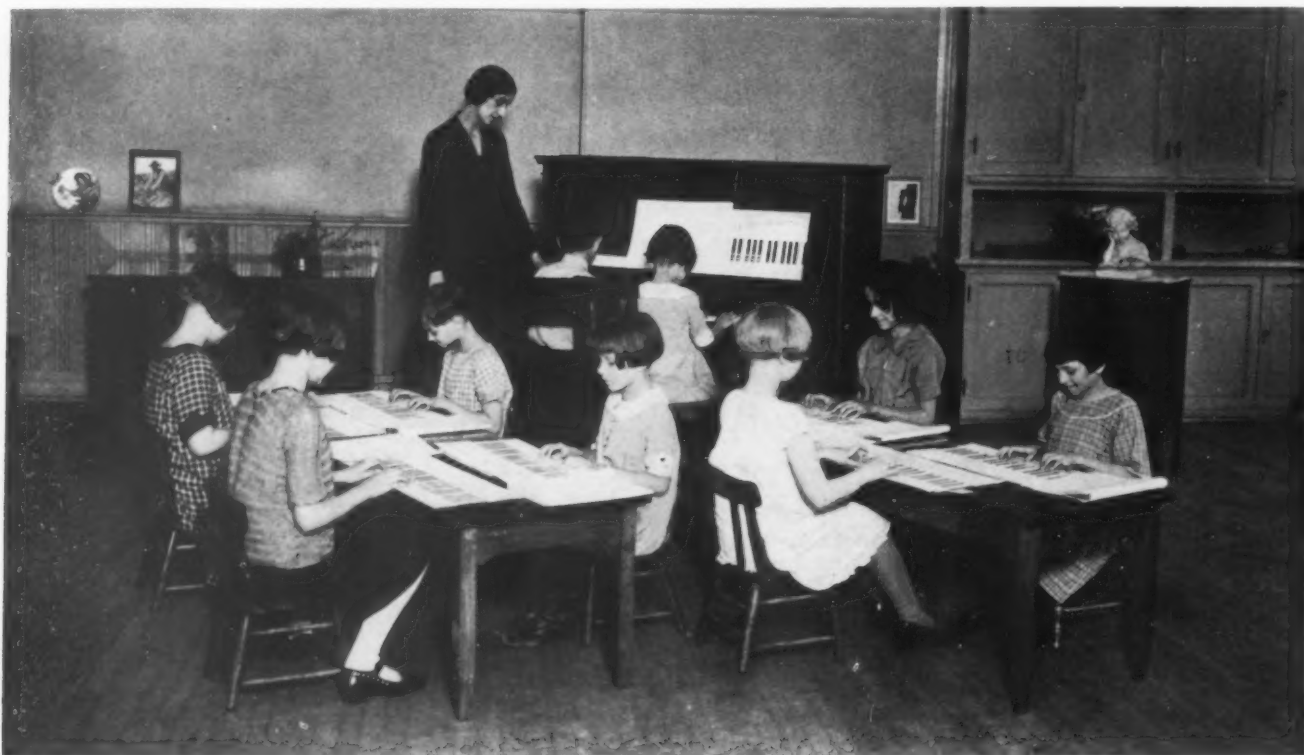


grow and bear fruit. Let us consider some of the interrelations of educational progress and publicity.

Recently Prof. Thomas H. Briggs, Columbia University, in discussing the function of education before a group of school men suggested that as a test of education a man ask himself at the close of the day just what he had done during that

interest and fixing the impression in the mind of the prospective learner, through vivid presentation and repetition, apply just as fully to a staff of teachers as they do to a class of children or as they do in the field of commercial advertising.

If we study the psychology of advertising, we note that the publicity efforts of business houses do just this. The brands of goods that we call for



Group teaching has made piano instruction possible at ten cents a lesson. The pupils first become acquainted with the miniature key board.

day because of his educational training. The next day a city newspaper carried this statement in full. A few days later a discussion of the statement appeared in the editorial columns. Here were three presentations of this idea within the short space of a few days. I was particularly interested to note the number of men who in conversation some days later referred to Professor Briggs' statement concerning the function of education. Here was a clear case of an educational idea taking root in a large city because of the publicity it had received. Those who have read Professor Briggs' writings know that he has been enunciating substantially the same idea for years, with apparently little effect on the school men of this large city until the statement was given local publicity through his address and the newspaper report of it.

The example just given is probably typical of how educational ideas take root among teachers. They follow the laws of psychology as all learning does. The rules for attracting attention, arousing

at our grocers or at our neighborhood drug stores are those whose manufacturers have allowed us no opportunity to forget them. The roadside billboards have repeatedly told us about them. The wrapper or container labels carry the message with every sale. The choicest most expensive and most artistically designed pages of the monthly magazines have been proclaiming their merits for years. As a result of this vigorous attention commanding advertising we tend to demand the goods of these manufacturers as standard, and thus contribute to their business progress and success. As one writer has aptly said, "Ideas become fixed in the minds of the great mass of people only as a result of continual hammering."

One might well inquire what amount of publicity is required to win the acceptance of a new educational idea by a large body of teachers. If we calculate the total amount of printed material that has appeared on any important new educational practice in recent years, we are likely to be amazed at the amount of publicity required to

gain its acceptance by the teaching public. How much publicity has been given to such topics as silent reading, educational tests and measurements, the facts regarding intelligence, the junior high school, the project method and, more recently, to safety instruction and character education, or to any other measure designed to contribute to educational progress? It can probably be said without fear of contradiction that scarcely a new proposal in education can be mentioned that does not receive as much as a million printed pages of publicity.

How Publicity Promotes Progress

If we consider the total number of running pages of publicity that have been required to gain even a partial adoption of each of the various educational practices above mentioned, we begin to realize something of the part played by publicity in securing educational progress. Their present position in schoolroom practice has been won through articles in various educational magazines, pedagogical textbooks, special monographs, bulletins and pamphlets, survey reports,

lions of running pages of publicity, and will require many more millions before the majority of teachers will forsake inefficient methods of teaching reading.

Whatever may be the contentions as to the processes by which new theories, new philosophies or new practices take root among teachers, I predict that in the final analysis of causes it will be found that publicity is a very significant, if not the most significant, factor involved. Relatively few teachers surrender old ways for new solely or even largely as the result of a process of careful reasoning. The new idea becomes the "talked-of" idea and the "talked-of" idea becomes the popular one. The popular idea in turn, whatever its shortcomings may be, becomes the proper and accepted practice in the eyes of the average teacher. This may be shown in the case of educational test use. Why is it that well trained and progressive principals and superintendents have been compelled to restrain teachers in the use of tests? The answer is that many teachers, because of the publicity tests have received, came to feel that using tests, no matter how or why, or what merits a



Girls to-day study the dress of past centuries to find new styles. Incidentally they learn much history and art.

published courses of study, yearbooks of various educational organizations, superintendents' reports, school textbooks and the daily newspapers, to say nothing of educational addresses, teachers' institutes and other professional meetings, and courses in institutions for the training of teachers. The subject of silent reading alone has probably already received no less than fifty mil-

particular test possessed, was the popular and therefore proper thing to do.

But what meaning has all this, the reader may ask, from the standpoint of the local superintendent or principal? It means simply this, that in endeavoring to get teachers to accept new ideas, far greater attention must be given to the publicity problem. Having selected the few outstand-

ing ideas and principles that he expects them to accept, the superintendent or the principal should plan a definite program for giving publicity to those ideas. Likewise, he must with equal care, anticipate the pitfalls that teachers are likely to get into. His teachers' meetings, special bulletins, demonstration lessons, reports of results by teachers, supervisory visits, directed professional reading and other supervisory measures must all be coordinated with the specific aims in view. A principal might well aim to have each teacher group, for example, accept five definite points to be followed in the teaching of lessons in silent reading. Each of the agencies mentioned would in one form or another give publicity to these points. Through the attention directed to them, the vividness of their presentation and abundant repetition, they would tend to become a part of the teachers' own procedure.

Vague Statements Are Ineffective

Among the reasons for the relative failure of many supervisory programs is the fact that they are lacking in just such definiteness of aim and that insufficient care is given to the publicity phases of the program. Vague general statements are likely to be hastily made and are as readily forgotten. A few of the most resourceful teachers may grasp the idea, but the others continue unperturbed in their old ruts.

This may be illustrated by the experience of a certain school system. For a number of years in this system as elsewhere teachers had been told that they should stress silent reading. But the specific details of how to teach silent reading received little attention. The superintendent, in conference with certain principals, suggested that a few specific but important points ought to be stressed and given prominence in discussions of silent reading. Among these was the notion that children should be taught to look for the central idea in what they read. Here again was something to which teachers had been referred again and again in pedagogical literature, yet scarcely a teacher could be found who was actually teaching children how to get the central idea. To make a vivid impression a single paragraph was selected for each grade. These were mimeographed and sent out from the central office to each school. Each teacher was told to write the paragraph on the board, have the children read it and suggest a suitable title for it. The best of these titles were to be sent to the office of the superintendent. From those sent in by various teachers, a list of some five or six of the best titles submitted for each paragraph was made up and returned to the schools. The outcome of it all was that instead

of a few isolated teachers who knew something of how to teach children to read for the central idea, there were hundreds who had profited by the exercise and incidentally by the attention directed to it.

Perhaps the most common mistake in all educational publicity work is to assume that we have effectively reached the large majority of the persons we desire to influence, when as a matter of fact, only a few have been affected. We are inclined to forget that the laws of forgetting apply to adults, as they do to children. Pupils who can make a score of 95 per cent on a test given immediately after presentation do well to score more than 50 per cent the next day, or as high as 20 per cent a few weeks later. Superintendents and principals would probably have fewer occasions to be disappointed if, instead of assuming a 95 per cent effectiveness of their pronouncements to the public or to their teaching staffs, they took it for granted that at the highest not more than 10 per cent of those they hoped to reach had been effectively directed toward educational progress. There may be 5 or 10 per cent who get the idea immediately, but the others do not.

Lessons From Other Fields

In the field of business, advertising psychologists can fortell with considerable exactness what may be expected from a given kind or amount of publicity. Great progress has been made in this field toward the establishment of publicity as a science. Nothing in education compares with the findings of experimental studies in the field of commercial advertising. Business firms are well aware of the ratio that advertising expenditures must bear to sales in order to produce a given volume of sales. Usually this ranges from 2 per cent to 10 per cent of the sales, depending upon the type of business. Starch found that a page advertisement in a newspaper having 100,000 circulation was likely to bring 225 replies. Goode and Powell maintain¹ that 12½ per cent is phenomenally high for any sort of voluntary action among a mass of people. Teacher improvement, we must bear in mind, falls largely under the heading of voluntary activities.

Successful business concerns have availed themselves of findings by specialists in the psychology of advertising. Concerns that employ highly paid experts and spend millions of dollars for advertising have no false illusions as to its magic qualities. They have learned not to expect 95 per cent returns when the investment warrants not more than 10 per cent. It is this point that

¹ Goode, Kenneth M., and Powell Jr., Harford, *What About Advertising?* p. 133, Harpers, 1927.

school administrators apparently have not yet learned and that they must sense more fully if educational progress is to be hastened.

Another lesson might be taken from the field of practical politics. One can readily imagine what would happen in a presidential campaign, if one party carried on a publicity program as great as that of either major party in the recent campaign, while the other gave no more attention to publicity than school administrators usually do. These shrewd political managers realize that results can be obtained only by continued hammering in one form and another. Unreasonable as it may seem, I am firmly convinced that educational ideas need to be presented and reiterated many times before they become a part of the daily practice of the large body of teachers.

Certain professors of education have charged that educational practice is more than a decade behind the teaching of educational psychology and philosophy. Because of the rapid strides being made in these latter fields they even maintain that the situation is growing worse rather than better. This gap between practice and theory will undoubtedly be reduced when school men recognize that they are dealing with a publicity problem, and set to work to develop a scientific publicity technique, such as has been developed in other fields.

Improve Health by Correcting Dietary Habits of Pupils

Public-school lunch rooms in dark, poorly ventilated, musty basements are rapidly being replaced by well lighted, ventilated, and cheerful ones, equipped with the most modern appliances and supervised by trained dietitians.

These dietitians not only prepare food suitable for growing boys and girls and serve it in an environment conducive to the development of high ideals and standards of conduct, but they make the essential food products so appealing to the eye and appetizing to the taste that food selection by children becomes a pleasurable exercise.

Too often the lunch is hurriedly swallowed and is devoid of nutriment needed for muscle and bone building, formation of good blood, teeth and all the other factors that help to produce health. This is one of the important reasons why the person in charge of school feeding should be a trained dietitian, so that the right kind of foods will be supplied.

If the breakfast is insufficient, there is every reason why the school lunch should make up the deficiencies. Investigations concerning the break-

fasts of school children, conducted by the home economics committee of the 1926-27 commission of curricula, appointed by the Department of Superintendence, National Education Association, show that from one-fourth to one-half of the children go to school without breakfast, and many of them go after having had only a cup of coffee. This situation may be due to poverty, slovenly habits of living or ignorance on the part of the parents of the needs of growing children.

It is the duty of the school, insofar as its educational resources will permit, to counteract these deficiencies. For this purpose the school lunch room is gradually being recognized as one of the greatest health agencies in the entire school system.

Rural High-School Pupil Has Limited Opportunities

Rural children do not have opportunities equal to those of urban children for high-school education, a rural school leaflet issued by the Bureau of Education points out.

Either a much greater proportion of rural children for various reasons do not obtain any high-school training, or else high schools for rural children are so inaccessible as to compel many children to forego home life if they wish to secure an education. Disparity between the proportions of urban and rural children attending high school is becoming greater rather than less.

The leaflet suggests that if pupils of high-school age in rural communities are to have educational opportunities equal to those of urban communities, ameliorative schemes already found to be successful must be encouraged or other reforms perfected in terms of curricular adjustments, teacher training and reorganization to meet the needs of the small high school.

In 1925-26 the average rural high school enrolled only 78 pupils, employed an average of only 4.3 teachers per school, and showed an average number of 18.2 pupils per teacher.

Not only does the smallness of the school result in overloaded teachers and poor instructions, but it greatly limits the curriculum offerings. Even when the subject assignments to teachers are at their best, the small high school of two, three, or four teachers cannot offer much more than a single curriculum of sixteen credit units.

Since it is estimated by computations based on the tables of this study that on an average less than one out of five of the pupils attending rural high schools ever goes to college, it is evident that this limited curriculum is certainly not fitted to the needs of the rural high-school child.

Taking Stock of High-School Teaching

Preliminary use of the technique here described reveals that it may be used with profit by school administrators and supervisors to secure analytical data concerning classroom activities

BY CHARLES W. BURSCH, STANFORD UNIVERSITY, STANFORD UNIVERSITY, CALIF.

A GROWING interest in the supervision of high-school teaching based upon more objective and analytical data, coupled with the distrust of and antagonism toward subjective supervision, makes any device and method calculated to secure such data both timely and valuable. The preliminary report of the development of a technique and the results of the use of that technique in observing sixty-two English and history classes in two medium sized California high schools are presented here.

Analyzing Classroom Activities

Obviously there are many items of interest and significance that may be observed during an ordinary class period of high-school English or history. Manifestly there is a limit to what can be observed and recorded accurately by an investigator during a single visit. Even such important considerations as those of light, temperature, kind and arrangement of furniture and content of subject matter are omitted in this study because it is believed that fairly satisfactory methods of checking these things have already been developed.

Our purpose is to study the teaching and learning act. Just what does the teacher do and what do the pupils do during the class period? Here, as in the study of any process, the time element is of vital importance. Then too, the verbal activities of both teacher and pupils must be analyzed and recorded. Other activities, such as studying, writing, taking roll, checking work and dramatization need to be studied and recorded. Also any disturbance, distraction or interruption of the task at hand must be noted.

The problem was thus limited to securing data relative to time; verbal activity; other selected activities, and disturbances. The task was to develop a technique for recording observations of these things accurately and objectively. At once the further need presented itself of having the required data so recorded that the task of making

compilations and summaries of it would be facilitated.

The devices used were a time check sheet and an analytical check list. An ordinary stop watch and a bicolored pencil were also used.

The time check sheet is made on an 8½-inch by 11-inch sheet of paper. It may be printed, mimeographed or made by the blue print process, with the lines and characters blue and the body of the sheet white. The last method was used in this study. At the top of the sheet, blank spaces are provided on which is to be recorded the necessary data concerning the school, class, teacher and subject taught. At the bottom a blank space is left. This may be used for a seating chart of the room or for the observer's notes. The main part of the sheet is taken up with horizontally ruled lines, scaled so that one inch on the line represents fifteen seconds of time. Each line across the page then represents two minutes of time. A number is placed at the left end and in the center of each line to aid the observer in finding the place on the time check sheet that corresponds to the elapsed time of the class.

Record Keeping Is Simplified

This time check sheet makes it easy to record, with the aid of a stop watch and by means of a set of symbols explained below, not only what takes place in the classroom but when it takes place and for how long.

The analytical check list serves a double purpose. It provides most of the symbols to be used on the time check sheet, and a place for tabulating and summarizing the frequencies of the various activities that take place in the classroom during the observation.

The check list shown here is not the same as the one compiled before any observations were made. The original list was made up of items secured from a canvass of the literature of high-school supervision and based upon eleven years' experience as a high-school teacher and principal. The

list submitted here shows the result of revisions made in the light of experience gained in using the original check list in observing high-school English and history classes. All changes were made with the idea of including all the significant items it is possible to record and of simplifying the check list. The simplification, obtained by

CHECK LIST

- | | |
|--|---|
| A—ASSIGNMENT
1. Pages or Chapter
2. Exercises
3. Topics, Problems
4. Reports
5. Review, Test, Exam.
6. Activity-Projects
7. Cooperation, Pupil
8. Written work
9. Oral work
10. Memorize | M—MOTIVATION
1. Approval
2. Disapproval
3. Threats, Scolding, Sarcasm
4. Vocational Interests
5. Avocational Interests
6. Competition, Emulation
7. Rewards, Privileges
8. Loyalty
9. Service |
| L—LECTURING
1. New subject matter
2. Reviewing
3. Reading
4. Dictating
5. How to study or work
6. Repeating pupil's response
7. Interrupting
8. Correcting pupil's response
9. Reciting from memory | H—HELPING PUPILS AT
1. Teacher's desk
2. Pupil's desk
3. Other places

D—DISTURBANCE—DIS-TRACTION
1. Announcements
2. Within class
3. Person entering-leaving
4. Hall
5. Outside building
6. Phone |
| S—STIMULATION
1. Yes, No
2. Fact
3. End completion
4. Thought—Discussion
5. Repeating S | R—RESPONSE
1. Concert
2. Yes, No
3. Word, Phrase
4. Sentence
5. Topical, informal
6. Don't know. Can't
7. Don't understand
8. Haven't had
9. Evasive
10. Report, formal
11. Free Discussion |
| C—COMMANDS TO
1. Ask questions
2. Do-Get-Go-Come
3. Continue
4. Repeat
5. Stop
6. Report
7. Read
8. Write
9. Study | T—TECHNIQUES
1. Adjust equipment
2. Distribute, Collect
3. Studying
4. Writing
5. Take roll
6. Record grades
7. Working in groups
8. Check work
9. Adm. Details
10. Dramatize
11. Pupil in charge |
| E—EQUIPMENT
1. Blackboard
2. Textbooks
3. Exercise books
4. Other books
5. Duplicated sheets
6. Maps, charts, graphs
7. Manuscript
8. Notes
9. Objects
10. Pictures
11. Magazines
12. Table
13. Bulletin board | |

COLORS: Teacher activity, red; pupil, blue.

E: Equipment used; e: equipment referred to.

SUPERSCRIPITS: Show pupils performing in techniques. Use "x" for entire class; less than entire class, number performing.

careful analysis and organization, was for the purpose of securing a reasonable completeness of record, facility of recording data and increased reliability.

In selecting headings for the main divisions of

the check list, the chief consideration was to have them suggest or sum up the items included. In some cases, however, a less desirable and suggestive head had to be used so that no two of them would have the same initial letter. This is necessary since the initial letters form the key to the system of recording symbols, which is explained below.

It is evident at once that each item in the check list had to be carefully defined prior to any satisfactory use of it. No attempt was made to define these terms in strict accordance with their use in educational literature. The whole purpose of the definitions was to make possible agreement and understanding in the use of the list in recording data and in using the data after they were secured.

The definitions, item by item, will not be presented here because of space limitations. Instead, brief explanations of the various headings will be given.

For the purpose of this study, an "Assignment" is being made when the teacher is telling the class, or any part of it, what to do as additional work in the subject. The various items under this head help to characterize the assignment.

Recording Oral Activities

The items under the head of "Lecturing" are for the purpose of recording the oral activities of the teacher that are not in response to a definite question by a pupil. They are not intended to provoke an immediate verbal or written response from pupils. The oral activity may be in the nature of a sustained presentation or it may occur scattered in a general class discussion.

Under the rubrics "Stimulation," "Commands" and "Responses," the items are designed to take care of what is ordinarily called "class discussion," that is, the verbal give-and-take between the teacher and pupils and among the pupils themselves. The items under "Stimulation" and "Commands" represent various types of effort, mostly on the part of the teacher, to draw information and discussion from the members of the class. The effort may take the form of a question or a command. The items under "Response" have to do with the various types of verbal activity that follow the presentation of stimuli.

The items appearing under "Motivation" are expected to reveal the types of appeals, stimulations and checks used by the teacher to secure greater activity of a desirable sort; less activity of an undesirable sort; good will toward some lines of activity, and antagonism toward others.

The items under the rubric, "Helping Pupils,"

are to give a rough check of the teacher's activity in connection with individual pupils when the class is studying or carrying on activities other than discussion or listening. The teacher is to be credited with helping the pupil whenever he confers privately or semiprivately with a pupil for any reason whatever.

Under the heading, "Disturbance—Distraction," there are certain items to check in order to give the frequency of occurrence and time consumed by certain definite things that are ordinarily considered disturbances, and certain items that call for the judgment of the observer as to whether or not they constitute disturbances.

The "Technique" items stand for certain worthy activities (other than the assignment, lecturing, discussion or motivation) sometimes found during a class period.

The list of thirteen items of "Equipment" is included in the check list not so much to determine how much or for how long the various items are used during a class period, but so as to make it possible to record the connections of the use of equipment with the classroom activities. Did the teacher use the blackboard in making the assignment? Did the pupil use a map in his formal report? These are types of questions the answer to which this section of the check list will help to reveal.

Symbols Used in Making Records

The main headings of the check list have been explained briefly. The items under these headings analyze further the teacher and pupil activities and show more definitely the kinds of data that are to be observed and recorded. These items are arranged on the page of the check list in such a manner that frequencies may be recorded opposite each item when necessary.

It is upon the time check sheet that most of the data are recorded with the aid of a set of symbols. It is upon this sheet also that a record is made of the time, during a period, that an activity occurs as well as the time taken for the activity.

The symbols used for recording data for the most part consist of the initial letter of a main heading on the check list coupled with the number of an item appearing under that head. A few examples will suffice to show how the symbols were used: "A 1" records that an assignment by pages and chapters was made; "M 7," that the work was motivated by an appeal to rewards and privileges; "L 1," that new subject matter was presented; "S 4," that a thought or discussion question or command was given; "R 5," that an informal response of more than a single sentence was given.

The symbols may be used in many combinations, as illustrated herewith: "A 1, 2, 8" records that an assignment was made of certain pages or chapters or material to be read, as well as some exercises, and that some of the work assigned was to be written; "A 10, E 5" records that an assignment was made to memorize material that appeared on duplicated sheets; "A 6, L 5, M 1" records that a project was assigned, that the teacher explained how it was to be carried out and that it was motivated by approval; "T 3, E 4" records that the pupils were studying from reference books.

What Superscripts Indicate

It is desirable to record who performed the activity as well as what the activity was. In this study, a bicolored pencil, red at one end and blue at the other, was used. All teacher activity was recorded in red and pupil activity in blue. The idea of making a record of who performed was carried still further by using superscripts with the symbols. The superscript "x" means that the entire class performed; while if more than one pupil but less than the entire class performed, the number performing was used as a superscript. (If desired, each pupil could be given a seat chart number and this number used as a superscript to indicate exactly which pupil performed.)

The items under the heading "Equipment," since they do not represent activity, require a slightly different method of recording. It is desirable to know whether equipment is actually used or merely referred to, as well as who used it or referred to it. The fact of who used the equipment was recorded by using the two colors and superscripts as in recording activities. Whether the equipment is used or referred to was recorded by using "E" as a symbol when any equipment was used and "e" when it was merely referred to.

The time, during the period, when an activity occurred was recorded by placing the symbol for the activity on the time check sheet at the place that corresponded to the elapsed time of the class, for example, the symbol, "H 1," in red, placed on the line of the time check sheet midway between 2 and 3, recorded that the teacher, at his desk, began helping a pupil two and one-half minutes after the period began.

The time consumed by an activity was recorded by marking a short vertical line across the time line on the time check sheet at the point that corresponded to the time the activity began, and a similar line at the point on the time line that corresponded to the time the activity was concluded. Then, when the symbol for the activity was placed just to the right of the vertical line

which marked the beginning of that activity, we had the complete record for (1) what took place, (2) who did it, (3) when it took place and (4) how long it continued.

It is not possible, however, for a record of the time consumed by every minor activity that takes place in an ordinary classroom to be recorded by an observer using this method and technique. It is therefore necessary to group certain of the minor activities into larger units which may, for convenience, be called "primary activities." The primary activities for which the time limits were always marked are the assignment, class discussion, lecturing and motivation by the teacher when it is not an incidental part of the class discussion, and any of the activities listed on the check list under the heading, "Techniques," unless they are merely incidental to some other primary activity.

During a rapid class discussion, it is not possible to record the symbols as fast as the stimuli and responses are given. In that case, the observer took the record directly upon the check list by placing tally marks opposite the proper items. However, the time that the discussion began and ended was always recorded upon the time check sheet.

It is possible, at the discretion of an observer, to record on the time check sheet the duration of secondary activities that parallel the primary. This is done by drawing a wavy line, of the right length to represent the duration of the secondary activity, parallel to and above the time line at the place on the time check sheet that corresponds to the time of occurrence. The appropriate symbols are then placed upon this wavy line. The sec-

ondary activities must always be recorded even though their duration is not shown, as just explained.

Unusual occurrences will frequently be met by the observer. These can be recorded in a note placed either on the lines of the time check sheet or in the blank space at the bottom of the sheet.

As has been stated, the technique described here is the result of a gradual growth coincident with the observation of a number of high-school classes. Although it is somewhat presumptuous to present data secured with the aid of a changing instrument, yet such presentation will reveal, perhaps more quickly than can be done in any other manner, the nature of the data the instrument and technique are designed to assist in securing.

What the Tables Show

The two tables presented do not by any means exhaust the possibilities of organization and summarization of the data secured. They merely suggest possibilities.

Table I shows how seven teachers in one high school distributed the class time for one week. The teachers were visited during the same hour and for the same subject each of the five days of the week. Table I is read as follows: "A," an English teacher, was visited during four periods. He gave an average of six minutes and thirty-four seconds to assignments; an average of twenty-six minutes and twenty-six seconds to class discussion, and so forth.

Table II presents an analysis of the nature of the class discussions conducted by the same seven teachers and for the same week's time as in

TABLE I—AVERAGE TIME PER FORTY-MINUTE CLASS PERIOD, IN MINUTES AND SECONDS, GIVEN TO CERTAIN ACTIVITIES

Teacher and Subject	No. of Periods	1 Assign- ment	2 Class Discussion	3 Lectur- ing	4 Formal Reports	5 Written Work	6 Supervised Study	7 Disturb- ances
A English	4	6:34	26:26	0:41	0:00	0:00	0:00	1:30
B English	5	6:00	25:00	0:33	0:00	2:18	0:00	0:00
C English	5	4:24	18:06	1:30	8:00	0:18	0:00	0:12
D History	5	9:21	22:45	4:42	0:33	0:00	0:00	0:30
E English	5	2:45	2:18	23:24	0:00	0:00	7:24	0:42
F Citizenship	5	6:09	19:39	6:03	1:24	0:00	5:39	0:06
G History	5	5:06	16:09	5:48	7:18	1:24	0:00	0:09
Average for 7 Teachers		5:46	18:38	6:06	2:28	0:34	1:52	0:27

TABLE II—AVERAGE NUMBER OF CERTAIN TYPES OF STIMULI AND RESPONSES PER FORTY-MINUTE CLASS PERIOD

Teacher and Subject	Average Time Class Discussion	S 1 S 2 S 3	S 4	R 1	R 2 & R 3	R 4	R 5
A							
English	26:26	13	8	7	12	3	20
B							
English	25:00	18	12	4	17	14	13
C							
English	18:06	30	9	9	19	11	9
D							
History	22:45	30	5	9	25	9	4
E							
English	2:18	1	4	0	0	0	4
F							
Citizenship	19:39	19	9	3	16	9	12
G							
History	16:09	15	6	3	11	7	9
Average for 7 Teachers	18:38	18	8	5	14	8	10

Table I. The analysis consists of showing the average frequencies of certain types of stimuli and responses given during the discussions. Stimuli S 1, 2 and 3 are the kind calculated to secure short responses, usually a word or phrase, never more than one sentence; S 4 aims at a longer response. R 1 is a response by the class in concert; R 3 and 4 are responses of less than one complete sentence; R 4 represents responses made in one complete sentence, and R 5, responses that consist of two or more sentences.

Table II is read as follows: "A," an English teacher, spent on the average twenty-six minutes and twenty-six seconds per period in discussion. He gave on the average, thirteen short-answer questions and eight discussion questions per period. The class responded in concert an average of seven times per period; with short answers, an average of twelve times; with single sentences, an average of three times, and with topical discussions, an average of twenty times per period.

Further Work on Subject Is Planned

The data secured so far in this study proved to be both interesting and suggestive to the teachers and principals concerned. The teachers were made definitely conscious of the technique they were using in conducting classes. The principals saw the possibilities of this type of data as a means of stimulating teachers to secure more and better verbal responses from pupils and more valuable pupil activity of other kinds.

The preliminary use of the method and technique described here reveals that it may be used with profit by school administrators and supervisors to secure data necessary to aid in the im-

provement of teaching, and that it may be used by students of education to determine more exactly what takes place in the classroom.

Further work on this study is planned along three lines: (1) to determine how much preparation is necessary before a competent observer can use this method and technique with facility; (2) to determine the reliability of the record obtained; (3) to secure a large body of data concerning the time and frequency of certain activities that occur in the classroom.

Why School Expenditures Have Increased

Five main reasons for increases in public-school expenditures were given in the report of the education council to the representative assembly of the Ohio Education Association which met in Columbus, December 28. The *Ohio Teacher* summarizes these reasons in the following paragraphs:

1. An extraordinary increase in school attendance, both in the grades and in the high school.

2. A long needed increase in the salaries of teachers.

3. A radical change in the materials and methods used in schoolhouse construction, together with an unusual increase in the amount of such construction since the war.

4. The expansion and enrichment of the educational program in the schools.

5. A very considerable reduction in the purchasing power of the dollar.



Landscape Design and the City School Child

Attractive grounds are an asset to any school. They not only add to its beauty and "balance" but to the cheerfulness of everyone who enters and leaves the building

BY JENS JENSEN, RAVINIA, ILL.

I KNOW of a school yard where the children planted trees to commemorate historical events. These memorial trees gave a dignified setting to the school building and charm and loveliness to the school yard. The saplings, now grown into large trees, have been carried in my memory for more than fifty years and are the only thing that would call me back to the school yard of my boyhood days.

There were flowering plants, too, that gave us color and beauty and taught us a lesson that might bear fruit in our own gardens. The vision of these is so firmly imprinted on my memory that I shall never lose it. To my mind, there is great educational value in the association of trees and flowers with a school.

What the City Child Misses

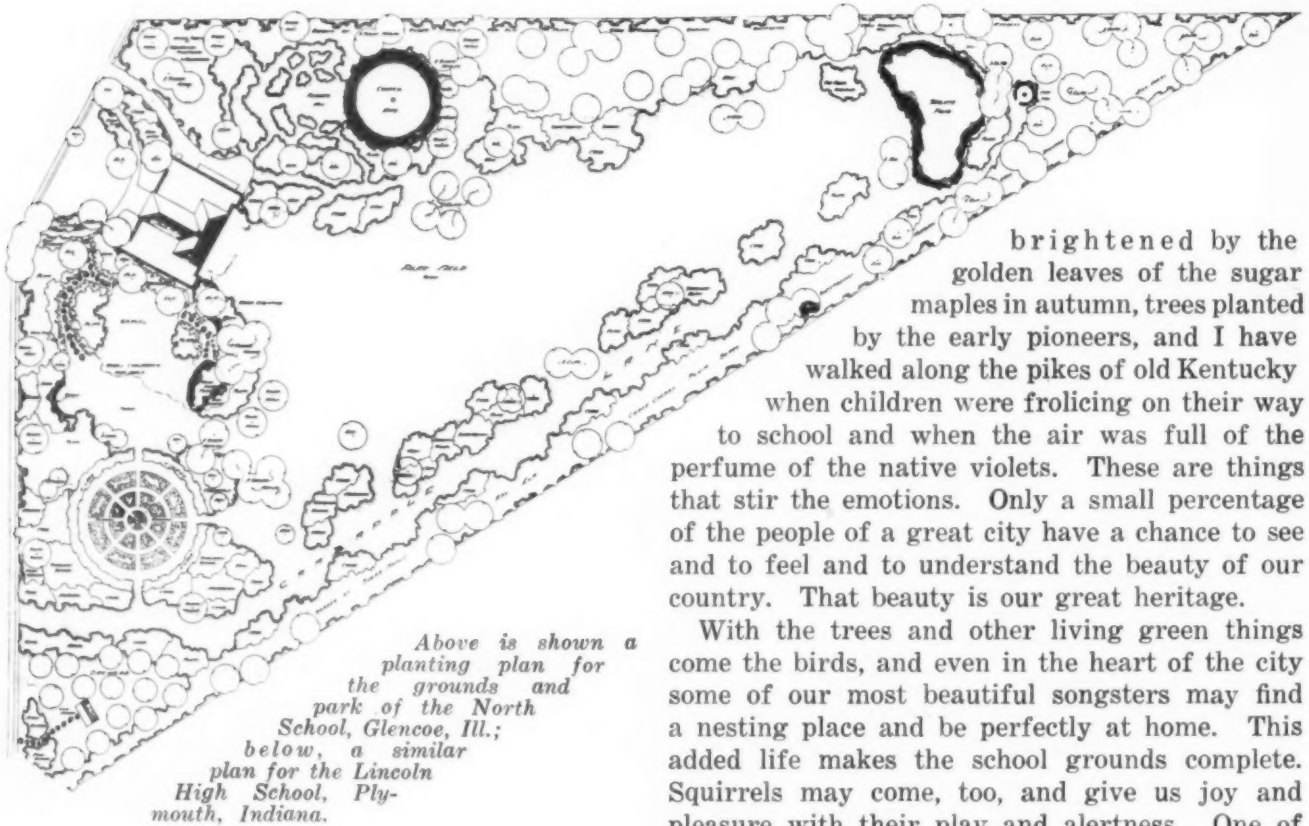
This school yard was in a small town where gardens and trees were numerous. Compare it with the school yards in our great cities where the living green is slowly being exterminated and where light and the open spaces are being sacrificed to high buildings and canyon streets, where the sun and moon can be seen for only a few moments during the day. The loss of this living green is a serious detriment to the full development of the growing child.

A school surrounded by green and a wealth of flowers is not only a beautiful picture but daily association with it stimulates a child's mind to the kind of beauty that he cannot get inside the four walls of the classroom and too often not in

his home. It creates a love for and a deep interest in the school and its surroundings. It brings into the city an oasis of green and growing things that bespeak health and friendliness. It permits the older folk of the neighborhood to spend hours during the summer evenings in a pleasant environment and gives them a chance to see and feel the mystery of the starry heavens. Here a ray of sunshine and a moonbeam and the sweetness of Spring—the resurrection, as it were—can penetrate into the very heart of the city. The blossoms of the roadside may here scatter their sweet perfume, and the things native to our land may stimulate interest and lead to knowledge of lasting value in the mind of the city child.

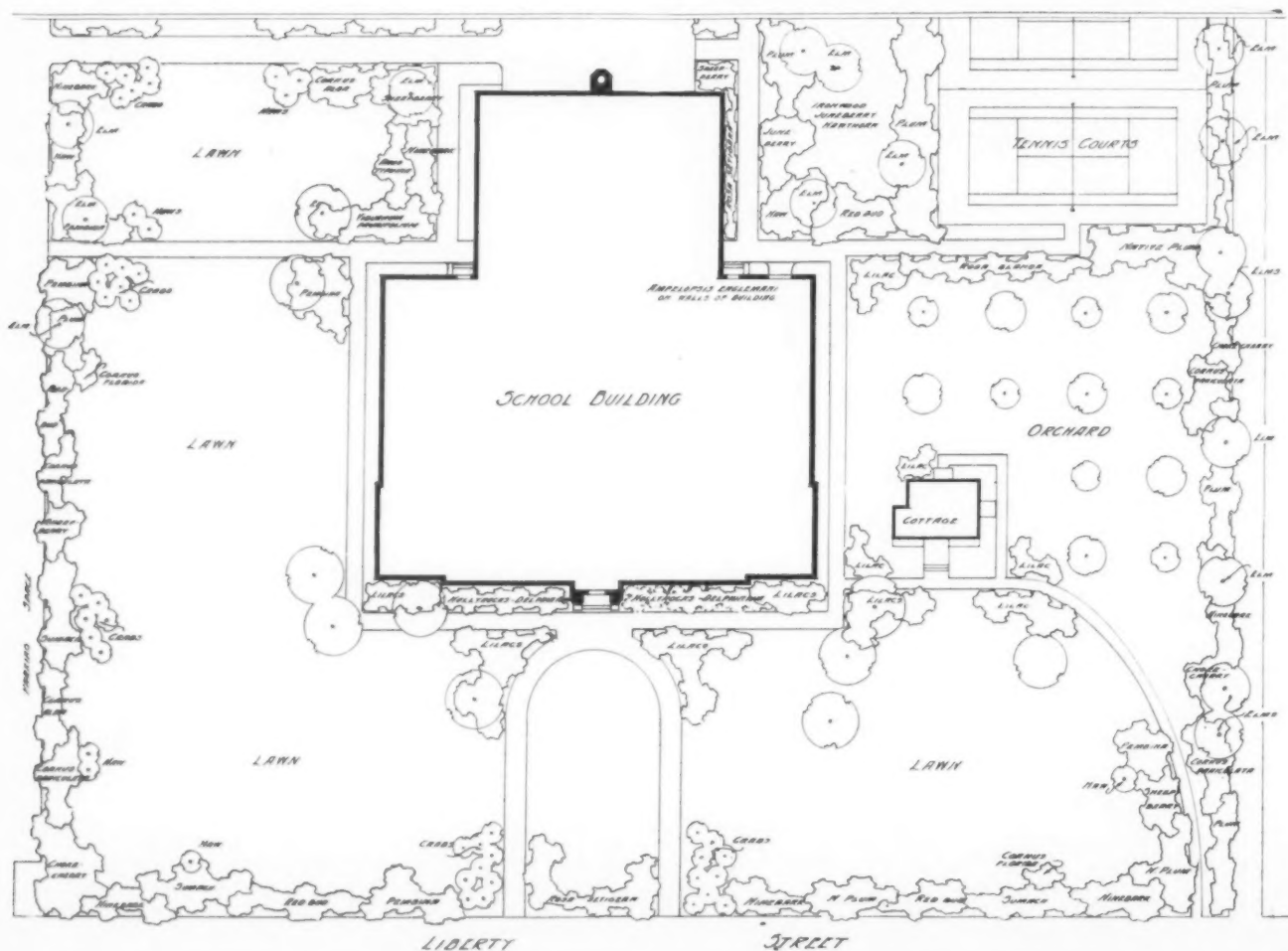
I speak about native things because I believe that every child born in our country should know the things that are native to our soil, that have made our land beautiful beyond description. These are a part of us and we are a part of them. What can be finer and nobler than our native crab apple in bloom or the flowering dogwood? What can be more fitting to the school yard? In the nobility of an oak or sugar maple or elm, under whose cooling branches generations after generations have played and may play, we find something that, perhaps more than anything else outside of family relations, fosters in us a love for our native land. Such trees become deeply rooted in our soil and link us to the past. Is not this fostering of love for our native land a purpose of our schools?

I have seen school yards in central New York



brightened by the golden leaves of the sugar maples in autumn, trees planted by the early pioneers, and I have walked along the pikes of old Kentucky when children were frolicing on their way to school and when the air was full of the perfume of the native violets. These are things that stir the emotions. Only a small percentage of the people of a great city have a chance to see and to feel and to understand the beauty of our country. That beauty is our great heritage.

With the trees and other living green things come the birds, and even in the heart of the city some of our most beautiful songsters may find a nesting place and be perfectly at home. This added life makes the school grounds complete. Squirrels may come, too, and give us joy and pleasure with their play and alertness. One of the charms of winter days is to see the birds gather around the feeding table and to note the



great variety that will come if you are friendly toward them. Cold and dark winter days lose their gloom; joy has been brought into the picture by these feathery friends, and even the cardinal may give his whistle on a wintry day and make us think of Spring. In the city we need this association; we need to learn friendship and love for things not of our making; we need to show tolerance for God's creations. Is not the school yard a good place to acquire this wider viewpoint?

There can be no doubt in the minds of intelligent men and women that a child misses much by being deprived of the living green and his ex-

physical and mental development, with trees and blooming things for the setting and framework of the building and grounds, green turf for pastoral beauty and restfulness, pools for fish and other water life, pools for sailing boats, pools for bathing and swimming for the whole school community, pools for the birds to drink and bathe in—each pool with a setting of its own, a real life picture that any painter would like to paint. There should be nesting houses and feeding tables for the birds.

Then there is the playground, with playground apparatus, tennis and hockey courts and baseball fields. In one corner there may be room for a

A swimming pool surrounded with ferns and shrubs is an attractive feature that can be introduced into the grounds of a city school, providing opportunity for physical and mental development. Such a bower of green as is shown here would encourage the nesting of birds, which always arouses the interest of children. Iris and other moisture loving plants might fringe the pool and enliven the scene with their gay flowers.



periences with it, the message it has for him. Not only is his health impaired, but his mental expansion, his emotional feelings, his love for finer things are checked when he is surrounded by the rigid, cold, artificial conditions of the street and too often by the worse conditions of the alleys and back yards. His mental growth is stunted in spite of the books at his disposal and it is therefore true that the child born and raised in the country usually has a greater imagination than the one born in the city. This should not be so. Our cities should be built not for real estate speculation, or for economic reasons but for the welfare of growing healthy men and women.

No one can foresee what may eventually develop from a school set in a bit of sylvan landscape, which provides plenty of opportunity for

players' hill, where all sorts of child plays, pageants and masques may be staged or where musicals and folk dancing may be enjoyed. What an ideal place for festivals in the Springtime—a festival to our native crab apple or dogwood or plum blossoms or other lovely things. In autumn there might be a festival to the fallen leaf.

In another corner there will be room for a council fire or camp fire, where classes may meet for special studies or where older folk may join in story-telling or singing of folk songs. There will also be room for the kindergarten, with a bird bath of its own and little pools with gold fish, and with posies for the smaller folk, where bees hum and butterflies flit from flower to flower—yes, and an occasional humming bird pays a visit. Why not a small field with real corn—the

golden corn—and wheat, oats and other products of the field and garden? Is it not essential that the city child should know about these things?

I can see the present colossal school buildings dwindling into smaller units, placed fittingly in a park with the out-of-doors activities about them. I can see these school yards break the monotony of our checkerboard city streets. I can see monumental buildings get their proper setting on such squares, where the full beauty of the building can be seen, which is impossible on the frontage of a narrow city street. I can see these school yards change the entire modern system of city planning, making our American cities distinct in character as the skyscrapers are now making our architecture. We have been apt to copy others; we have had too little faith in our own accomplishments. It is easier to drift with the current than to swim against it, but the struggle of hardship is the struggle of accomplishment and if we follow the footsteps of the pioneers who struggled for their lives, if we struggle as much for beauty, for the art of living and the art of doing, our accomplishments will be great and will benefit the world.

At What Age Shall Specialization Begin?

That the absence in America of anything corresponding to what in England are known as preparatory schools—schools that prepare boys for the great public schools—means that boys of fourteen in America are much less advanced in their studies than boys of the same age in England, is pointed out by John Haldane Blackie, English educator, writing in the *Educational Review*.

The most necessary and easiest change, says Mr. Blackie, would be in the matter of college entrance examinations. At present none but the most outstanding boys can hope to obtain the necessary credits for admission to college in less than five years. They complete their examinations at the end of the term previous to their entering college, where they arrive in a half-baked state of knowledge. During their four years at college they are compelled to cover an immense amount of ground, and for two years at least cannot attempt specialization. In fact, unless they proceed to graduate college they never even begin the kind of work that is being done by Cambridge and Oxford honors students during their first year.

To remedy this evil, an examination should be devised that a normal boy would be capable of completing at least one, and if possible two

years before he went to college. He would then have one or two years more at school during which his general studies would be reduced to a minimum and he could concentrate on whatever subject interested him most, or whatever was most likely to be useful to him in after life. Thus the colleges would receive every year a certain number of boys who had learned already how to work by themselves, who had begun to take a personal interest in their work for its own sake, and who had already tasted something of the joys of original research. The colleges would of course have to recognize the new conditions and allow specialization at a much earlier period than is now the case.

The American boy, Mr. Blackie finds, is of a high mental caliber, is less shy and reserved than the English boy and is capable of much greater enthusiasm when his interest is aroused.

French Teachers for Foreign Service Trained in Paris

A special school has been established by the University of Paris for the preparation of teachers of French in foreign countries. Graduates of this school, the *Ecole de Preparation des Professeurs de Francais a l'Etranger*, are to be found in all parts of the world, although, strangely enough, not a single graduate is teaching in England.

The curriculum of the school includes many subjects other than the teaching of language. The students review the history, geography and civilization of France, and study the systems of education and psychology of the foreign peoples among whom they may find employment.

B. Cognet, *Lysée de Chartres*, says that the opportunities offered teachers of French vary in different countries, but that the best are found in the United States. Since American schools prefer to know their teachers before making a permanent engagement, candidates for posts in this country are sent on a scholarship for a year's probational teaching.

About thirty of these candidates have been sent by the *Ecole de Preparation* to the United States. The entrance salary has been \$2,000, sometimes net. To obtain such positions a good knowledge of English is necessary.

On the other hand, not a single graduate of the *Ecole de Preparation* is teaching in England, not even in the French *Lycée* in London. However, some students of this school, the *Ecole de Preparation*, act as assistants in British schools while perfecting their knowledge of English.

Stimulating Productive Research in Teachers' Colleges

Creative scholarship is coming more and more to be recognized as a function of teacher training institutions and as such is gradually bringing about an elevation of teaching standards

BY CLIFFORD WOODY, UNIVERSITY OF MICHIGAN, ANN ARBOR

RESEARCH has long been recognized as a legitimate function of the university, but the recognition of research as a function of a teachers' college or training institution is of recent origin.

As a general rule the course in the teacher training institutions has been only one or two years in duration. The students just out of high school and those not even completing a high-school course needed and still need survey courses in both the academic and professional subjects rather than courses that emphasize research and research techniques. The faculties of the teacher training institutions have had a large number of students and heavy teaching schedules. Too, the preparation of the individual members of the faculty has been inadequate to carry on research having promise of adding to the existing fund of knowledge.

Conditions in teacher training institutions in 1929 are somewhat different. The regular normal course has been changed from two to four years. The teacher training institutions are no longer known as normal schools but as teachers' colleges. The qualifications of teachers have been raised so that students who are not high-school graduates are not regularly admitted. Teachers' salaries have increased to such an extent that teaching as a profession is attracting a better type of student. The level of qualifications of the faculties is being raised, although in many teachers' colleges it is below that required for the highest type of research.

Raising the Teaching Standards

Recently a national authority in commenting on the development of the movement for teachers' colleges asserted that in many institutions the change from the two to the four-year course represented nothing more than doubling the time for teaching the same old material. He asserted that the same old faculties were giving the same old courses and argued that the movement was too sudden to allow the faculties to prepare ade-

quately to give the type of courses that should be included in the added two years of work. Some of this criticism is well founded, but we are all aware of the recent ruling of the Association of Teachers Colleges to the effect that after 1931 all instructors must have at least a master's degree. We are also aware of the fact that the doctorate is becoming a necessary requirement for appointment to a major teaching position. If this tendency continues over a decade or two, the academic and professional preparation of the members of the teaching staffs will be sufficiently high to warrant an entirely new attitude toward research work in teachers' colleges.

A Gradual Change in Attitude

The change in attitude will be gradual and will occur in approximately the same proportion as conditions in teachers' colleges will warrant. Under present conditions it is too much to expect a large number of major contributions in research from the teachers' colleges, although it is not too much to expect the methods of research to be widely employed for the personal development of many members of the teaching staffs. Almost every member of any teaching staff should be encouraged to apply the scientific method in the solution of some specific problem arising in connection with the teaching of the different subjects. Many of the problems may be attacked in routine fashion and the results may not represent contributions of great social value, but the results will be of inestimable value in expanding the horizon of those who are giving the instruction. Through attacking minor problems by means of a more or less routine application of scientific method, the way will be paved for attacking major problems promising results that will have definite social significance.

In order to stimulate research on the part of the individual members of the teaching staffs, the administrative offices of these teachers' colleges themselves should set a good example by actively engaging in some program of research. The ad-

ministrative offices should be interested in several types of research that may be characterized as follows: administrative research, personnel research and instructional research.

Administrative research is essential to the scientific administration of teachers' colleges, or of any other type of institution. If the teachers' colleges are to be run on a scientific basis, they must apply many of the principles that have been worked out in connection with the administration of the public schools. The scientifically administered teachers' college must have available detailed and systematized analyses of finances. These analyses must show all sources of income for a period of years in the past, in the present and in the future. They should show comparable facts from other similar institutions within the state or in other states. The analyses should show how the institutions are spending the funds provided. They should show the relative amounts spent for the administrative staff, for the teaching staff, for the maintenance of the plant, for the operation of the plant and for all such items enumerated on the forms for proper financial accounting in the administration of the public schools in some of our leading cities. The administrative offices need to know the relative proportions of funds distributed to each of these items and how these proportions compare with those distributed in previous years and in other comparable institutions.

Collecting and Systematizing Facts

It is not altogether improbable that these facts should be stated on a per student or per student-clock-hour basis, but this point is not advocated. The plea is simply for adequate collection and systemization of facts so that the institution may be administered in accordance with principles deduced from a detailed study of facts. In connection with the types of facts mentioned, the administrative offices will need a detailed statement of the qualifications and experience of the members of the teaching staff in a given institution and in other comparable institutions. These offices will also need a statement of facts concerning the use of the buildings.

The significance of these facts will be evident when it is stated that in an institution of higher learning when an earnest plea was being made to the legislature for buildings to relieve the crowded conditions within the institution, the state ordered a survey and found that in this institution the available rooms were being used less than one third of the time from eight o'clock in the morning till six o'clock in the evening during the six days of the week. In that insti-

tution the instructors all wished classes at nine, ten and eleven o'clock on Monday, Wednesday and Friday, and they were opposed to having classes at any other hours.

No doubt a similar condition exists in many other institutions and it is suggested that the administrative offices of those institutions ascertain the facts and make proper administrative adjustments rather than have some outside agency make a discovery that leads to the embarrassment of the administrative officials. The list of items upon which the administrative offices should collect facts could be greatly extended, but all will recognize from the examples cited that the administrative offices in teachers' colleges have enormous fact gathering tasks before them if they are to administer their institutions on anything like a scientific basis.

Problems of Personnel Research

Two different problems will be discussed under the heading of personnel research: (1) the problem of getting acquainted with the students in training and (2) the problem of determining the factors that contribute to success in teaching. These two problems are closely related and might well be treated together, but in this discussion they will be given somewhat isolated treatment.

In the discussion of the former problem it is the thesis of this paper that teachers' colleges need to get acquainted with their students. Getting acquainted does not mean learning to recognize them in the classroom or to speak to them on the street and in other public places—important as these types of acquaintance are—but getting acquainted means obtaining information concerning their innate abilities, their relative educational achievements, the breadth of their culture and the nature and intensity of their interests.

Getting acquainted means obtaining facts concerning the size of the high schools and the size of the cities from which they come, concerning the nature of their home environment and the education, vocation and culture of their parents and relatives. Getting acquainted means obtaining facts concerning the achievements and the behavior of the students while they are attending the teachers' colleges, concerning the courses taken, their scholastic attainments and interests, their methods of work, their extra-curricular and leisure time activities, their interests in the cultural and professional life of the institutions they are attending and the attitude they have toward the profession they propose to enter.

Getting acquainted means obtaining facts concerning what becomes of the students who have

entered the teachers' colleges, the length of time they remain in attendance, the number eliminated, the cause of the elimination, the number graduating from the different courses, the number in different types of positions, the number in cities of different sizes and in cities at various distances from the institutions attended, the number of years these individuals teach, the length of time they teach a given type of work and in given communities, the number of students taking advanced training at state universities or other types of institutions of higher learning and the nature of the records made at these institutions. Getting acquainted means obtaining facts concerning the whole student in his whole social environment.

This problem of getting acquainted with the student is especially pertinent at this time because of the apparent oversupply of teachers. On almost every hand one hears the statement that the supply of teachers is greatly in excess of the demand. In the last report of the Commissioner of Education (1926) the following statement is made:

"The total enrollment in 402 teachers' colleges and normal schools in 1926 was 294,064, of which number 270,206, or 92 per cent, were enrolled in teacher training courses. In all types of institutions having teacher training work, 304,412 were enrolled in such courses in regular sessions, and 494,943 is the total if summer-school students are included and duplicates excluded. If the regular students enrolled in teacher training complete the work in the usual time required in the schools in which they are enrolled, they can replace one-seventh of the present teaching force in all schools in the United States."¹

Facing an Oversupply of Teachers

These data describe the situation as it existed in the United States two years ago. Reports to-day indicate that the supply of teachers and the number of teachers in training in relation to the number of positions available is much greater than it was two years ago. An educator, in a recent address, asserted that at the present time there is one teacher in training for every two available positions, while a few years ago there was one teacher in training for every six or seven positions available. An editorial in the *School Board Journal* for May, 1928, makes the statement that there are now 100,000 teachers in the United States without positions. There are, the editorial indicates, 6,500 teachers without positions in New York alone. Informal reports from Detroit, Cleveland, St. Louis, Dayton and Grand Rapids all indicate that the demand for teachers

in the respective cities is much less than in previous years and that the number of applications is much greater.

The legislation in the different cities making provision for sabbatical years, legislation or attempted legislation restricting the employment of teachers to those locally trained or from the local cities, legislation prohibiting the employment of married women and, finally, legislation reducing the salary schedule for teachers all point to an oversupply of teachers. Whether this oversupply of teachers will be permanent is a matter of conjecture, but when one considers the enormous increase in the number of pupils attending the secondary schools and colleges and the corresponding increase in the number of students in schools of education and in teachers' colleges, not to mention the possibility of teacher training in the ever increasing number of junior colleges, there is reason to believe that the supply in proportion to the demand will not be lessened.

Good Teachers Are Always in Demand

While the evidence indicates a present oversupply of teachers, it can safely be said that there is always a demand for good teachers. The problem thus resolves itself into one of selecting only those who give promise of developing into good teachers and of giving them superior training. It has been said frequently that the quality of students studying to become teachers is somewhat inferior to that of the students studying for the other professions. During the war there was considerable evidence to substantiate that claim. Since that time higher salaries for teachers and other factors have helped to remedy the condition, but there is some indication that it still exists.

Recently in a study of the interest and achievement of approximately 1,000 seniors expecting to graduate from the high schools of Michigan, it was found that the mental and achievement levels of these seniors contemplating entering the teacher training institutions were considerably lower, as indicated by their scores on the Otis Self-Administering Test of Mental Ability and the Iowa High-School Content Examination, than the levels of those contemplating entering universities and colleges. Furthermore, the mental and achievement levels of those choosing teaching as a life career were lower than the mental and achievement levels of those choosing many other careers.

Whether a wider study would show the same condition or not is a matter of conjecture, but there is need for a cooperative investigation among the teacher training institutions and the

institutions of higher learning in order to establish the truth or falsity of the condition. If such an investigation should show that students of inferior quality are entering the teacher training institutions, there is opportunity with the existing oversupply of teachers to devise ways and means for making a better selection of the students proposing to enter the profession of teaching. Just what the method of making this selection shall be is unknown, but it is high time that every teacher training institution, in order to throw some light on this problem, should do everything in its power to get acquainted with the students who are studying to become teachers.

Selecting Students for Teachers' Colleges

Many different investigations must be made in determining the method of selecting the students who are to be given the privilege of studying to become teachers, but the one that will receive major consideration is that concerning the determination of the factors contributing to success in teaching. This problem has been studied in various ways, but as yet there is no satisfactory solution. Whitney,² Somers,³ Jones,⁴ Knight,⁵ Pyle⁶ and others have worked upon this problem, and it seems that the most important contribution made by the investigators is that they do not know what contributes to success in teaching. Many studies are available to show fairly high correlations between mental ability and academic achievement, but the studies by these educators do not show much correlation between mental ability and success in teaching.

These investigations are interesting, but they do little more than raise the problem. Other factors must be sought. For a time it looked as if Mr. Ullman, a graduate student at the University of Michigan who is studying this problem, might throw some additional light on the problem, but since some of his results have been tabulated the problem seems as much of a mystery as before. Mr. Ullman in his investigation has been trying to determine the relationship between success in practice teaching and each of the following factors: the average scholastic marks earned in high school, the average college marks in academic subjects, the average marks in the major subject, the average marks for courses in education, mental score on the Brown University Mental Test, the interest in the profession of teaching as determined by the score on the Stanford Interest Analysis Blank, the social-economic status as indicated by the score obtained on the Sims Score Card, the social development as indicated by the score on the George Washington University Test for Social Intelligence, the score on the Weber

Standard Test on Aims, Purposes, Objectives, Attributes and Functions in Secondary Education, the score on Odell's Standard Achievement Test on the Principles of Teaching in Secondary Schools and a score obtained from a self-rating made on Freyd's Graphic Rating Scale for Teachers.

In counseling with Mr. Ullman it occurred to me that possibly social intelligence and social background, the student's interest and attitude toward teaching and the student's measure of his own ability in the qualities fundamental to successful teaching would have a higher relationship to successful teaching than the factors studied by the investigators previously mentioned. Mr. Ullman this year is evaluating the different factors in terms of the success in practice teaching, but next year he hopes to take success in the field as his ultimate criterion. Thus any conclusions reached are merely tentative, but it is interesting to find that there seems to be no relationship between any of these factors and success in practice teaching.

It is not only interesting but almost startling to learn that the coefficient of correlation between intelligence and practice teaching is about .16; social intelligence and practice teaching, approximately .17; score on the Weber Test and practice teaching, .20; score on the Odell Test and practice teaching, approximately .27; score on the Sims Test and practice teaching, approximately .19; self-rating score on the Freyd Graphic Scale and practice teaching, approximately .20; academic marks and practice teaching, approximately .36; marks in professional subjects and practice teaching, approximately .30; marks in major subject and practice teaching, approximately .24; scores on Stanford Interest Analysis Blank and practice teaching, .02. These correlations simply verify the conclusions reached by other investigators on the factors they studied, and indicate that the additional factors of social intelligence, social background, interest in teaching and professional attitude are no more significant than the other factors studied.

A Problem Yet to Be Solved

The problem is yet unsolved. The available facts are accurate and stimulating but they do not coincide with common sense. As a good friend of mine used to say when he found discrepancies between facts and common sense, "We must reexamine both the facts and the common sense, for one or the other is wrong." Most of us have an ardent belief in the effectiveness of mental ability, achievement in the academic subjects and achievement in the professional subjects

as factors contributing to success in teaching, yet available facts do not show high correlations between these factors and success in teaching.

Numerous factors may influence the size of these correlations. The tests may not be accurate measures of what they purport to measure. The criterion of success in practice teaching or real teaching may be faulty. The groups tested may be so highly selected that within the group itself the influence of the factor is rather insignificant when the factor would be enormously significant if the group represented a cross section of our social life. The academic and professional courses may need modification and adjustment so that they may correlate more closely with teaching situations. The practice teaching with its more or less cloistered atmosphere may not be typical of the real teaching situations that teachers actually encounter. The factors considered may not be the vital ones contributing to the success or failure of the teachers.

Seeking the Measurement of Success

If we are to locate the factors that make for success in teaching, we must look for other factors than the ones we are now measuring. The necessity for doing this is evident from the following answer to an inquiry made by one of my colleagues concerning a young woman teaching for the first time in one of the better schools of Michigan. This young woman came from a well-to-do family and thus had an excellent social and cultural background. She had a keen mind and had a strong "B" record in scholarship. She had done especially well in practice teaching and according to the criteria applied gave every promise of becoming a successful teacher. However, the superintendent for whom she was teaching, in answer to the inquiry concerning her success, stated that she was not succeeding and that he was not offering her a contract for the next year.

In commenting on the reasons for not offering her a contract, he stated that in the classroom she was a decided success, but that she was useless as a member of the school community because of her attitude and behavior toward the school, the other teachers and the community. She did not arrive in the city until the Sunday before school started on Monday, he said, she asked to be excused from attending the first meeting of the teachers in order that she might go to the city and buy a new frock, she began gossiping about the other teachers and criticizing their methods, she openly criticized the high-school principal and told him that his methods were out of date, she began keeping company with the older boys in high school and went driving late at night with

the chauffeur of one of the wealthy families in the town, she bragged to the other teachers about her party dresses and was continually talking to them about the "four fellows she had on the string." The superintendent concluded by saying it was a pity that a young woman with so good a personality, who had demonstrated her knowledge of teaching techniques, had been endowed with such a small amount of what he termed horse sense.

The foregoing incident may not be highly significant in itself but it surely points to the fact that there is need for intensive studies of personality and character traits that hitherto have been overlooked. It seems that every teacher training institution should be vitally interested in contributing to the solution of this problem. These institutions should be gathering and filing facts that will aid in its solution. Until this question is solved, the problem of the proper selection of students is unsolved. Without the solution of the former, teacher training institutions may appeal to the superintendents of schools for prospective students of higher mental, educational and moral qualities and urge them not to recommend anyone to the teacher training institutions whom they would not wish to employ after attendance at such institutions, but such a procedure is unsatisfactory. My plea is for a co-operative effort in collecting all sorts of data bearing on the problem and in continued efforts at its solution.

Encouraging Instructional Research

The administrative offices in connection with the teacher colleges should be genuinely interested in instructional research, but they are in no position to engage actively in such research. They must make their contributions through encouraging instructional research and through providing conditions whereby instructional research may be easily conducted. They must serve as coordinating agencies through which interested departments may secure the conditions and materials for conducting the desired investigations. They will serve with the greatest degree of effectiveness when the proposed investigations involve the cooperation of several instructors in several departments.

Unless these offices are willing to assume the responsibility for directing the research projects involving several departments, attempts at such investigations are likely to result in dismal failures. Wise administration of the teachers' colleges will make provisions for wide experimentation in evaluating the effectiveness of various types of instruction within the institutions themselves.

The administrative offices cannot force research, but if they favor the principle of basing decisions upon facts rather than upon opinion unsubstantiated by facts and if they are willing to provide funds for carrying on a few large investigations involving instructional research, they will provide stimulation for the growth and development of many a faculty member who might otherwise have a premature intellectual death.

The chief function of the administrative offices is not direct participation in the problems of instructional research. The chief function is that of creating suitable conditions and stimulating the cooperative efforts of others in carrying on the investigations. These offices should confine their attention to those problems of general interest to several departments and to those problems that no other agency can direct satisfactorily. The administrative offices in teachers' colleges, like those in the public schools, need to reorganize and readjust the curricula every few years. It is the favorite trick of the superintendent of schools, when he feels that his teachers need to make a special study of proper emphasis of subject matter and methods of teaching, to have the teachers revise the course of study.

Reorganizing the Curricula

One of the big values of the movement for junior high schools was re-evaluation of subject matter and methods of teaching. Likewise one of the big values of the movement for the establishment of the junior or university colleges in connection with some of our leading universities is the great impetus for a reconsideration of the content and methods of presentation of the courses given to freshmen and sophomores in these universities. The time may be ripe for the teachers' colleges as well as for universities to consider the reorganization of their curricula and to lay the foundations for the great benefits that will come from a directed program of instructional research. This problem of reorganizing the curricula is one that should be given serious consideration in connection with the plan for stimulating this type of research.

The administrative offices might well concern themselves with another type of instructional research—that of the study habits of students. This type of research may well be considered under the heading of personnel research, but the major problem is one of instruction. Illustrations of the type of problems that should be considered may be found in the recent contribution of Pressey, "Research Adventures in University Teaching," and in Book's "How to Succeed in College." This type of research usually involves the stu-

dents who are not succeeding as well in their work as they should, although it may involve other students.

It usually involves diagnosis of difficulties and the prescription of remedial measures. This type of work may be characterized as hospital or clinical work. The need for it may be small in any one department, but the need is present in almost all departments. Therefore the initiation of this type of work should come from the administrative offices. The actual direction of the work may well be delegated to the department of psychology or education, but it should be understood that the problem is an institutional problem. In many institutions of higher learning special consideration is given to this type of research and it seems well to recommend that the administrative offices in teachers' colleges should do everything possible to foster such research.

The discussion of the research activities of the administrative offices has loomed large, but the research projects of the individual faculty members should not be neglected. The research activities of the administrative offices should usually be characterized as practical research; those of the individual faculty members, as pure research. In the teachers' colleges, however, many of the faculty members are not sufficiently trained in research methods to carry on investigations of such promising social value to be worthy of the name of pure research. It is highly probable that a great many of the faculty members, if they are to do research work, must engage for a time being in research of a more or less routine nature.

This research, although it may not result in contributions of vital social significance, will be of great significance for the personal development of those engaged in it and may in time lead to contributions of enormous social worth. If it is important that teachers in the elementary and high school engage in research activities of some kind, it is equally important that those in the teacher training institutions should also participate in these activities.

Research Activities of Instructors

It is especially fitting that instructors in the teachers' colleges should engage in research having for its purpose the evaluation of the effectiveness of different methods of teaching. One of the main purposes of the teacher training institutions is to give the prospective teachers control over effective methods of presenting subject matter. Yet few of the methods advocated have been scientifically evaluated. There is great need for extended investigations dealing with teaching practices in their natural situations.

Anyone familiar with educational psychology knows that most of the data upon which our psychological laws and principles are based, were developed in the laboratory and not in actual teaching situations. For example, Ebbinghaus' classic investigation on memory was developed in the laboratory by having adults learn nonsense syllables. The keywords in the previous sentence which should challenge the attention of all are "laboratory," "adult" and "nonsense." It is conceivable that different results might be obtained if for these three words the words, "schoolroom," "children" and "sense material" are substituted. Bryan and Harter's investigation, often quoted in connection with the psychology of learning, deals with the experience of an adult in sending and receiving telegraphic messages. These authors, in their description of the investigation, imply that the facts discovered will apply to the teaching of composition or chemistry.

Little evidence exists to show to what extent this is true. Most of the investigations dealing with motor and associational types of learning involve adults and materials that are in no way connected with the practical schoolroom situations. Doubtless the results obtained are significant, but whether the deductions evolved will apply to the different schoolroom situations is another question. The responsibility of answering this question, if it is to be answered, should be assumed by those who have accepted the responsibility for training teachers in proper methods and techniques. The question which every member of the teaching staff in the different teachers' colleges should ask is, "Am I living up to the full responsibility that has been placed upon me as an agent in teacher training?"

A Goal for Teachers' Colleges

This discussion about research has centered around the teachers' colleges of the future and not those of the present. The teachers' colleges at present are not equipped and their faculties have not adequate training for the program just outlined. Yet the status outlined in the program represents the goal toward which the teachers' colleges should be working. For some of the teachers' colleges the first step toward the goal may be the employment of one or two instructors who have made outstanding contributions in the field of research, and allow their influence to stimulate others to similar efforts. For other teachers' colleges the first step may be the establishment of bureaus of research in connection with the administrative offices. These bureaus might well be called bureaus of administrative research since a large portion of their work

should consist of research directly connected with the administration of the institutions with which they are connected.

The directors of these bureaus should be outstanding in their training and scholarship. These directors must be able not only to carry on the investigations desired by the administration but to visualize problems confronting various departments of the institutions being served and to teach the members of the respective staffs the methods of solving their problems. These directors of research must be both research workers, and stimulators and trainers of research workers. Their first tasks will be of the practical type and will probably deal with some aspect of administration, but if they are to realize their fullest possibilities, their influence will permeate all departments of the institution and sooner or later will be reflected in research activities initiated by individual members of the various faculties.

Separate Funds for Each Bureau

The research directors, if they are to accomplish their purpose in acceptable fashion, should be provided with adequate funds, but they should by no means control all the funds devoted to research. Nothing can do more to create dissatisfaction among a teaching staff and to stifle research than the establishment of a research bureau having a monopoly of the funds devoted to research in a given field. The bureaus should have their own funds for carrying on their own projects, but they should not presume to control all of the research activities of the members of the teaching faculties.

These bureaus should be created to do one type of research, to stimulate other types and to serve as advisers to those desiring aid on projects that they wish to undertake. They represent the leaven through which the research ideas should be disseminated through the institutions. It is hoped that the influence of the establishment of these bureaus primarily designed to carry on various types of administrative research will eventually percolate all departments of the various institutions and will gradually stimulate their various members to creative and productive scholarship.

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Will Mental Arithmetic Come Back?

BY R. V. JORDAN, SUPERINTENDENT OF SCHOOLS, CENTRALIA, ILL.

IN THE latter half of the nineteenth century great stress was laid on so-called mental or oral arithmetic. One old textbook of those days classifies problems as "oral" and "slate" exercises.

By mental problems was meant, of course, problems to be solved without slate and pencil, sometimes at sight but usually after some study and preparation. Every textbook of those days gave a large amount of space to mental problems and a number of texts were available that were devoted entirely to mental arithmetic.

Since the dawn of the twentieth century, however, mental arithmetic has gradually fallen into disuse and to-day it is practically impossible to find a modern textbook on the subject. The investigations on the value of drill as carried on by Knight, Brown, Clapp and others have shown the necessity for drill, but the practical application has for the most part taken another route—drill on the combinations in the fundamentals.

Why Mental Arithmetic Is No Longer Used

What was responsible for the falling off of interest in mental arithmetic? Was there no longer need for such ability or did the scheme of former times not carry out the work in a practical way? From our study of the problems solved by school patrons in every-day life, we are forced to conclude that nothing is more practical than mental arithmetic. In fact, if our judgment is at all correct, 65 per cent of the problems of every-day life are mental.

But the mental arithmetic of the past century was not based on actual life situations, either in content or difficulty. It was "made up" in an office chair and was often more difficult than the ordinary problem form, the author usually failing to see that both the reasoning and the figuring employed must be simple and that the problem should be based on an actual life situation. Here is an oral exercise from an old textbook:

"On the fourth of July Mr. Brown divided $\frac{3}{5}$ of \$4 among his children. To the eldest he gave $\frac{1}{4}$ of the $\frac{3}{5}$, and to each of the others 45c. How many children had he?"

Or

"My age is $\frac{3}{5}$ of my brother's; his age is $\frac{5}{12}$ of my father's, who is 72 years old. How old am I?"

Compare the above with the following taken from a collection of several thousand problems of every-day life which I have prepared:

"How much will it cost to screen our front porch if it takes 30 yards of screen wire at 30c and a screen door costing \$2.25?"

"At an August fur sale, I bought a \$120 fur coat at $16\frac{2}{3}\%$ discount; how much was the bill?"

"My salary is \$150 per month and my expenses \$125 a month; how much can I save in a year?"

"What is our monthly expense for magazines if we buy the *Literary Digest*, 10c a week; *McCall's Magazine*, 10c a month and the *Saturday Evening Post*, 5c a week?"

No wonder that the old-time mental arithmetic passed out of favor. Who, except a budding mathematical genius would care for such puzzles as those quoted above from the old textbook? Do we need a new form of mental arithmetic? I am inclined to think from the results of my study of the problems of every-day life that we do. But the new mental arithmetic must be composed of problems that are a cross section of every-day life.

Seeking an International Basis for Education

A world united through education, a common language and common understanding, is the objective of plans that Dr. Walter S. Athearn, chairman of the division of character, moral and religious education, World Federation of Educational Associations, hopes to formulate after a world tour which he will undertake soon.

Through leaders in the different countries, Doctor Athearn expects to achieve definite understanding of existing conditions which will enable him to formulate plans for an international basis of education. A national department of education in each country of Europe and Asia is one objective. Through these clearing centers the individual problems could be delegated to an international department of education.

In this country a national department of education with a secretary in the President's cabinet has been advocated for a number of years. Such a department was provided for in the Curtis-Reed bill introduced before the last session of Congress.



A Detroit School That Incorporates Modern Features

The heating and ventilating of this building is accomplished by means of a rather ingenious variation of the so-called "all blast" system

BY NEAL M. DUNNING, SMITH, HINCHMAN & GRYLLS, ARCHITECTS AND ENGINEERS, DETROIT

THE Benjamin Nolan Intermediate School, Detroit, a fireproof structure accommodating 2,000 pupils, is situated on an eight-acre site in the center of a residential district.

The architecture is Georgian. Light tooled face terra cotta trim contrasts with the red brick walls and the two entrances on the main elevation are interesting Georgian detail in terra cotta.

The plan was carefully worked out in accordance with modern educational methods and practice in intermediate schools.

The administration offices, including an assistant principal's office, book store, conservatory and vault, are situated between the two main entrances. The science department occupies four rooms to the right of the entrance. The vocational unit provides an automobile shop, machine shop, woodwork shop and general shop. The automobile shop is conveniently located at the end of a projecting wing, where garage doors provide an exterior entrance.

A corresponding wing on the left of the building provides two rooms for sewing, with special fitting rooms, and two cooking rooms. An entrance at the end of the wing leads to these rooms. The rooms for music and art are at the front of the building. The music rooms, which will also be used for public speaking, are conveniently placed near the auditorium. The commercial department occupies three rooms for bookkeeping, typewriting and class instruction.

Twenty-four classrooms and two mechanical drawing rooms are on the second floor.

A library occupying the central unit of the second floor has been made very attractive. Oak wainscot and shelving, 7 feet high, are carried on the side walls, while the ends of the main room are paneled full height. Cork panels, alternated with grilles, are used above the shelves. The ceiling is plaster barrel vault. The library alcove is paneled to the ceiling. Fluted Doric pilasters enrich the arch between the two rooms, and a fireplace of Georgian design adds to the pleasing appearance of the room. The floor is covered with linoleum. Simple Colonial electric fixtures are used throughout.

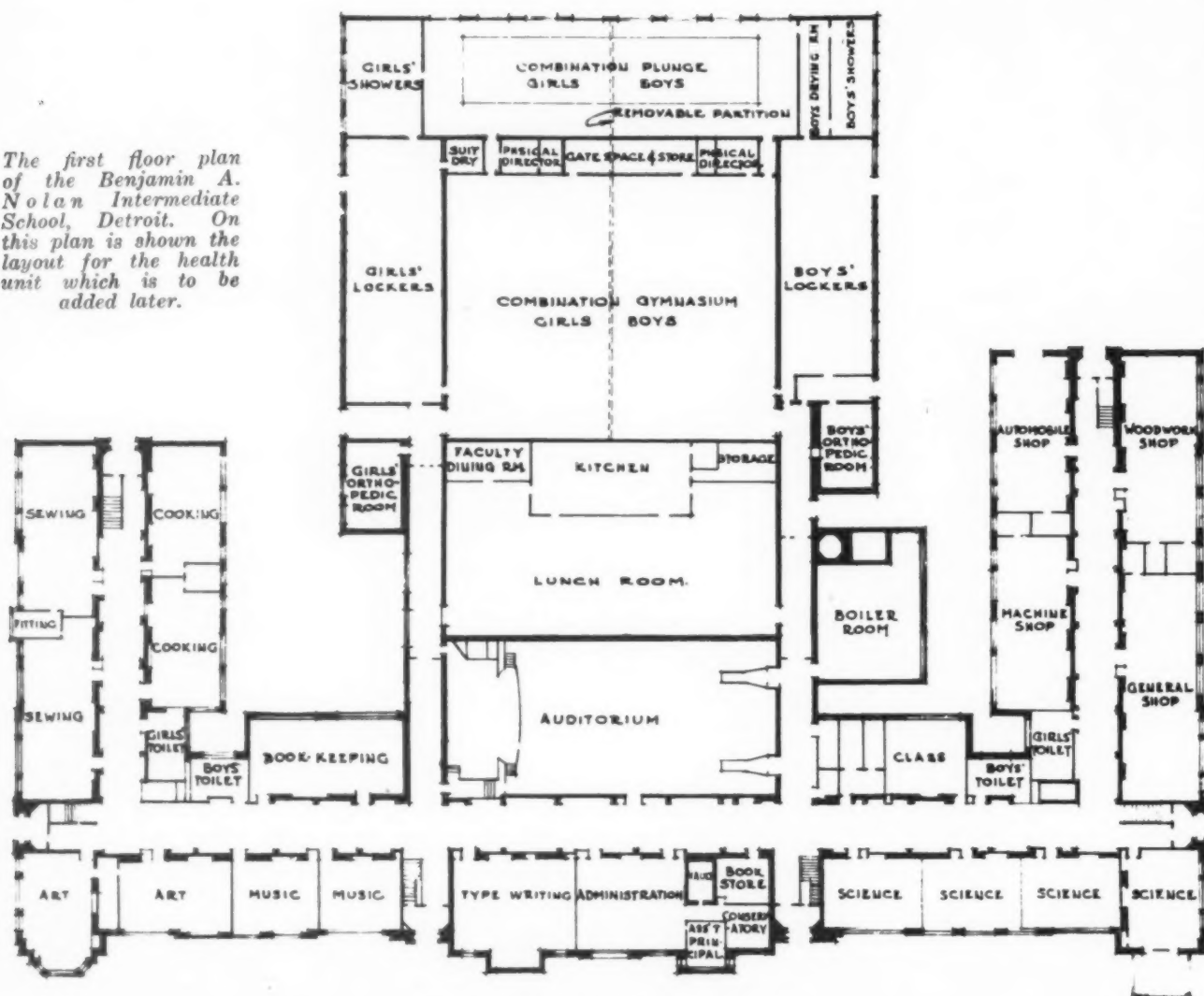
The corridors have plaster walls with Keene cement wainscot and metal chair rail. The flooring material is linoleum. Well lighted stairways at the ends of the corridors help to make the building safe.

Auditorium Is for Community Use

The auditorium on the first floor opposite the entrances is easily accessible to the public. It is designed to seat 750 persons. The high windows, topping the wainscot, and the beam ceiling are well treated. The wood trim is painted. The auditorium has complete stage equipment and a separate heating and ventilating system makes it a separate unit for community use.

The cafeteria will serve 500 pupils at one time.

The first floor plan of the Benjamin A. Nolan Intermediate School, Detroit. On this plan is shown the layout for the health unit which is to be added later.



Below is the school's attractive library in which is a fireplace of Gothic design.



The kitchen is conveniently placed to serve the auditorium or a gymnasium which will be added later.

The health unit, which will be built in the near future, will be a unique feature. A gymnasium, divided by soundproof folding doors into a boys' and girls' gymnasium, will seat 2,200 at special activities. Adjacent to the gymnasium, a pool, 20 by 90 feet, may be similarly divided. Both the gymnasium and pool will be accessible from the outside for interscholastic games. The health unit will include locker rooms, orthopedic offices, shower rooms and offices for physical directors.

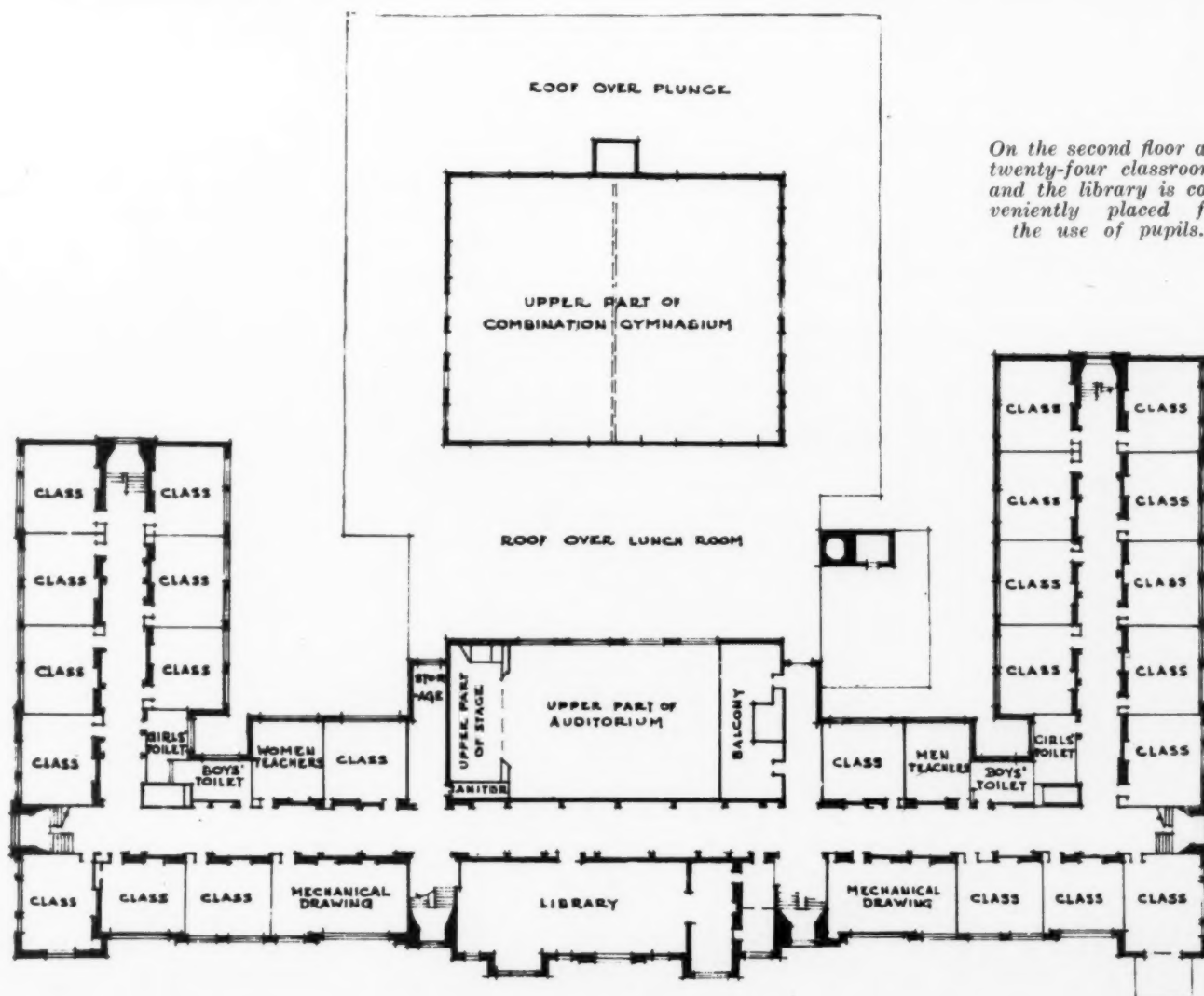
How the Rooms Are Ventilated

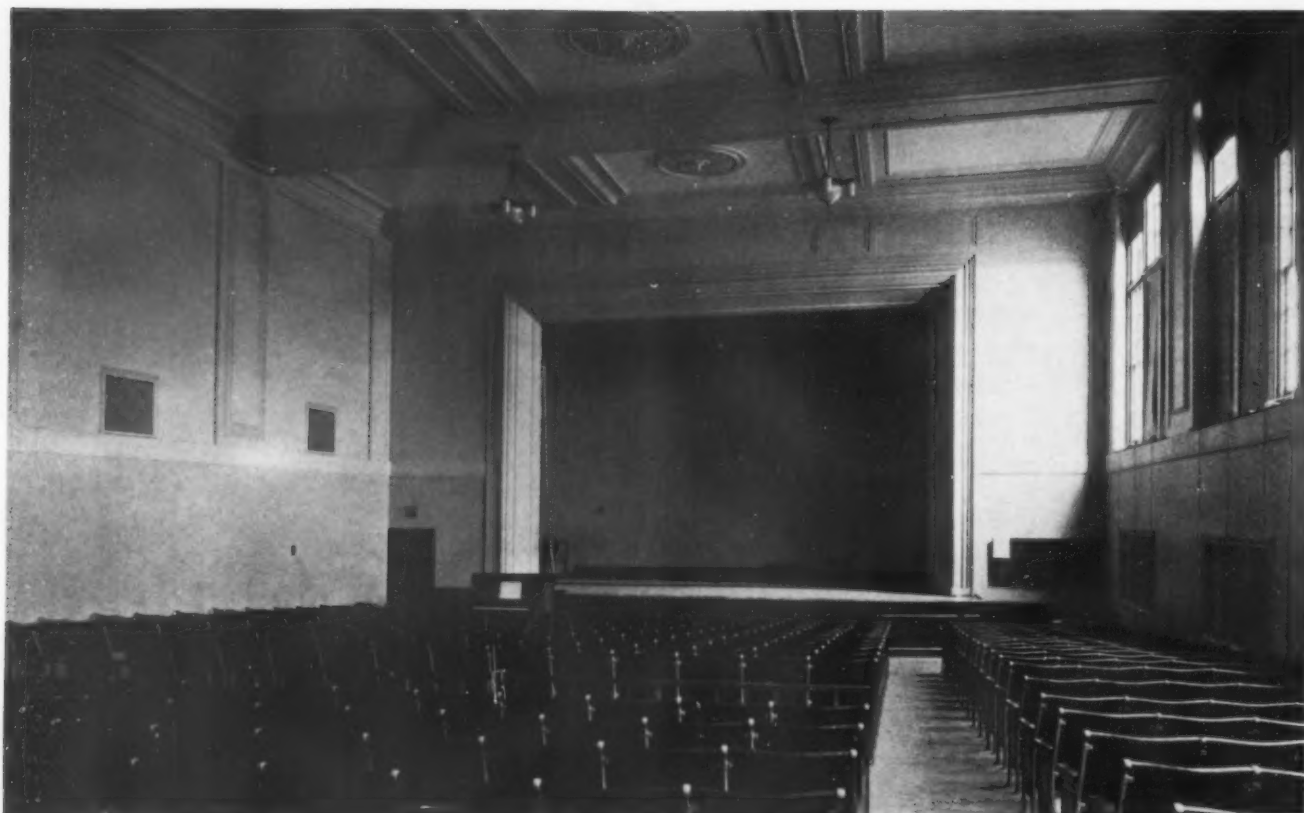
The heating and ventilating of this building are accomplished by means of a rather ingenious variation of the so-called "all blast" system. With the usual type of "all blast" system, heated air, introduced into the classroom through duct openings near the ceiling of the corridor wall, flows across the room and during periods of low temperature out of doors, the air is chilled by contact with the cold outer walls and windows. As

a result of the change in density due to this chilling, the temperature falls toward the floor near the outside wall, with the result that the pupils in the outer row of desks are in an atmosphere frequently 5 and sometimes 10 or more degrees lower than those seated at desks on the inside aisle next to the corridor wall.

To overcome this objection, a system was installed which instead of admitting the entire supply of heated air through the duct openings on the inner or corridor wall of the classroom, admits only about 75 per cent of the supply in that manner. The remaining 25 per cent is introduced through ducts from the plenum chambers, thence through narrow slits (from $\frac{1}{8}$ to $\frac{3}{8}$ inch in width) extending the whole length of the window stools. The film of warm air rising from this slit, along the cold side of the room, mixes with the descending chilled air and flows back across the classroom at the temperature level of the mixture. This has entirely corrected the uneven horizontal temperature distribution of the usual "all blast" system.

Aside from this rather unique method of in-





The auditorium is on the first floor, opposite the entrances, and is easily accessible to the public. It is designed to seat 750 persons.

troducing a portion of the heated air through the window stools, this system operates the same as any "all blast" system, in which the air for ventilation serves as the carrier of the heat to compensate for structural losses.

Recirculation is used to a greater or less degree, thus conserving heat and lowering operating expense. The entire system is under thermostatic control, including the air intake dampers above the roof.

How Outdoor Air Is Admitted

Apparatus for air cleansing, humidification and automatic temperature regulation is installed as a part of the heating and ventilating system.

Outdoor air is drawn into the system through two fresh air shafts, which open above the roof but which are also connected with the attic, spaced (by means of thermostatic controlled dampers) where the ducts from all the classrooms terminate, making possible, by regulation of the supply and exhaust dampers, recirculation of any desired portion of the air. After passing through the apparatus for cleansing and humidifying the air, a portion of it is passed over radiation and heated, while another portion is by-passed around the heating coils. The heated air is delivered into one-half of a double plenum chamber, under the first floor corridor, and extending through the center of the entire building, and the cooler air

into the other half of this plenum chamber. Mixing dampers under thermostatic control from each room regulate the relative quantities of heated and tempered air from this main supply (the plenum chambers) entering the branch ducts leading to the room, and thus maintaining the desired temperature. The branch ducts, of which there are two to each standard sized classroom, are again divided to provide for the admission of 75 per cent of the air to the room through the opening near the ceiling of the corridor wall and 25 per cent through the window slits.

This variation of the "all blast" system has successfully overcome the frequent objection to the conventional systems of this type, in that it introduces heat at a point where it is needed to compensate for the losses through and around the windows.

Lighting System Carefully Planned

In the lighting of this building, the five main points considered were: quality of illumination produced; convenience and maintenance; appearance of the installation; efficiency of the system; cost of installation.

Intercommunicating telephones and bell signal systems are installed throughout the building and a complete and dependable fire alarm system has been installed, separate from the bell system used for calling or dismissing classes.

Amateur Motion Pictures—An Aid to Effective School Publicity

The filming of college activities at Hood College, Frederick, Md., is a definite part of the publicity program and a unique means of preserving the records of public events at the school

By JOSEPH H. APPLE, PRESIDENT, HOOD COLLEGE, FREDERICK, MD.

THE practice of filming the events of public occasions was introduced at Hood College three years ago. This was done for the purpose of preserving in convenient form the records of public events, for publicity and even propaganda and for the personal enjoyment of the faculty and students and others who might be interested.

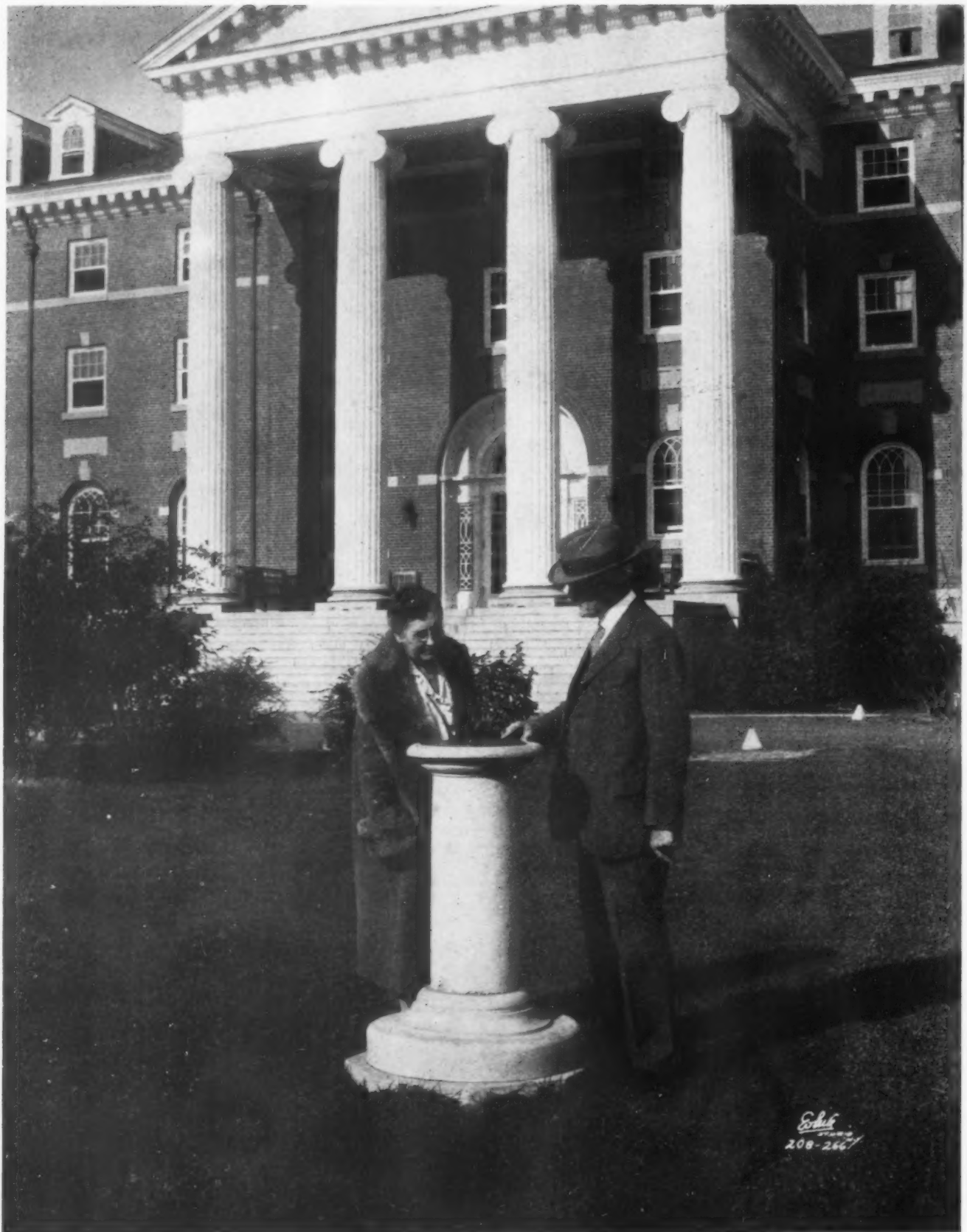
At the outset we were assisted by the missionary education secretary of the church with which we are affiliated, and thus our earliest efforts while not professional in the usual sense could not be called strictly amateur. I mention this not only to give credit where it is due, but also to caution others against amateur attempts that may lead to disappointment. After the first few occasions we took both camera and projectoscope into our own hands and for some time now we have proceeded without help from the outside. As



a result, three completed reels are available for projection.

The first reel represents the visitor as he arrives at the institution in the morning. He views the various buildings and the trees and shrubbery upon the campus, watches the students on their way to and from morning chapel, enters laboratories where students are at work and glances into the library and the registrar's office. He lunches in the college dining room where the entire student group is served. After further viewing the campus, the visitor stops for a cup of tea at one of the residences and makes a final call upon the president in his office. The interior of the office had to be taken with "slow camera" and the subject was cautioned against making any abrupt or rapid movements. All went well until the subject deliberately turned from his desk toward the visitor,

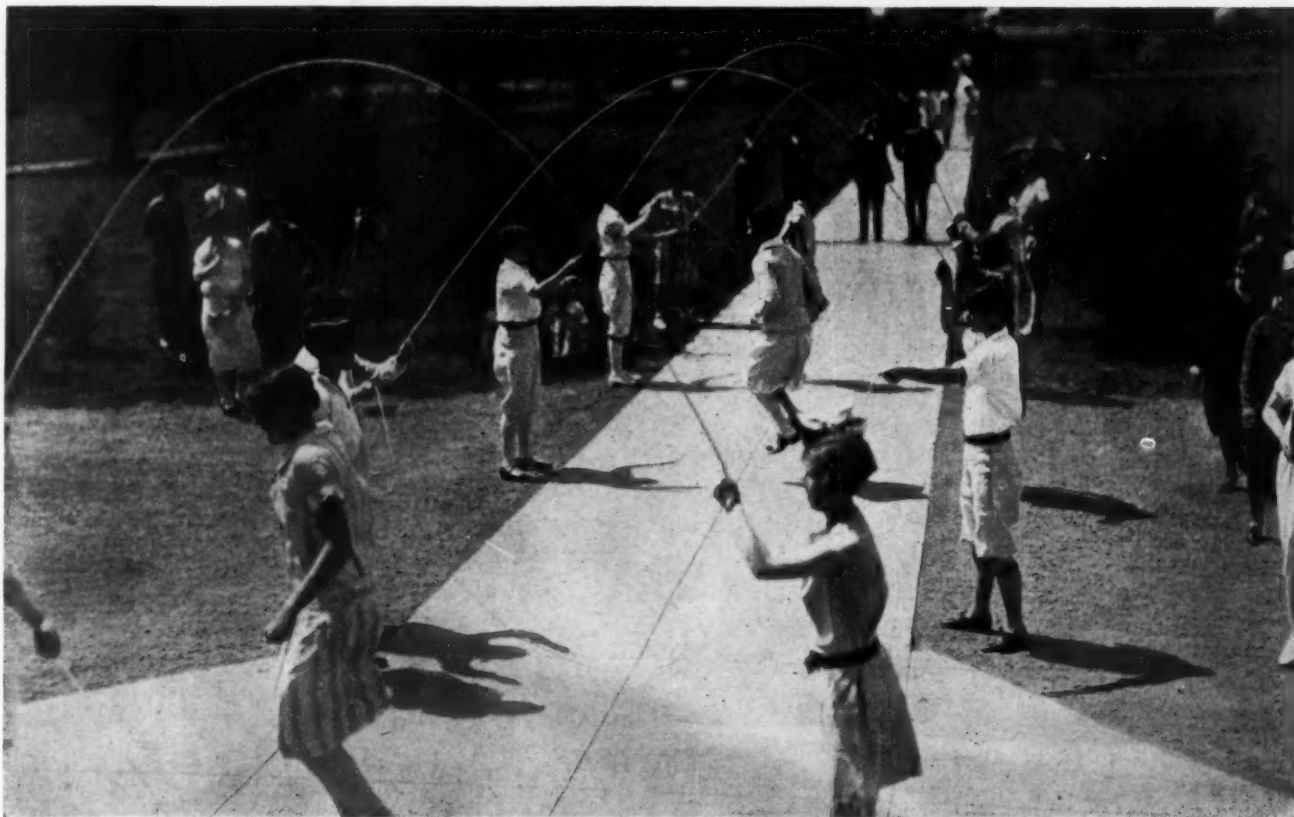
A glimpse of the vista to be seen from the porch of Hood College.

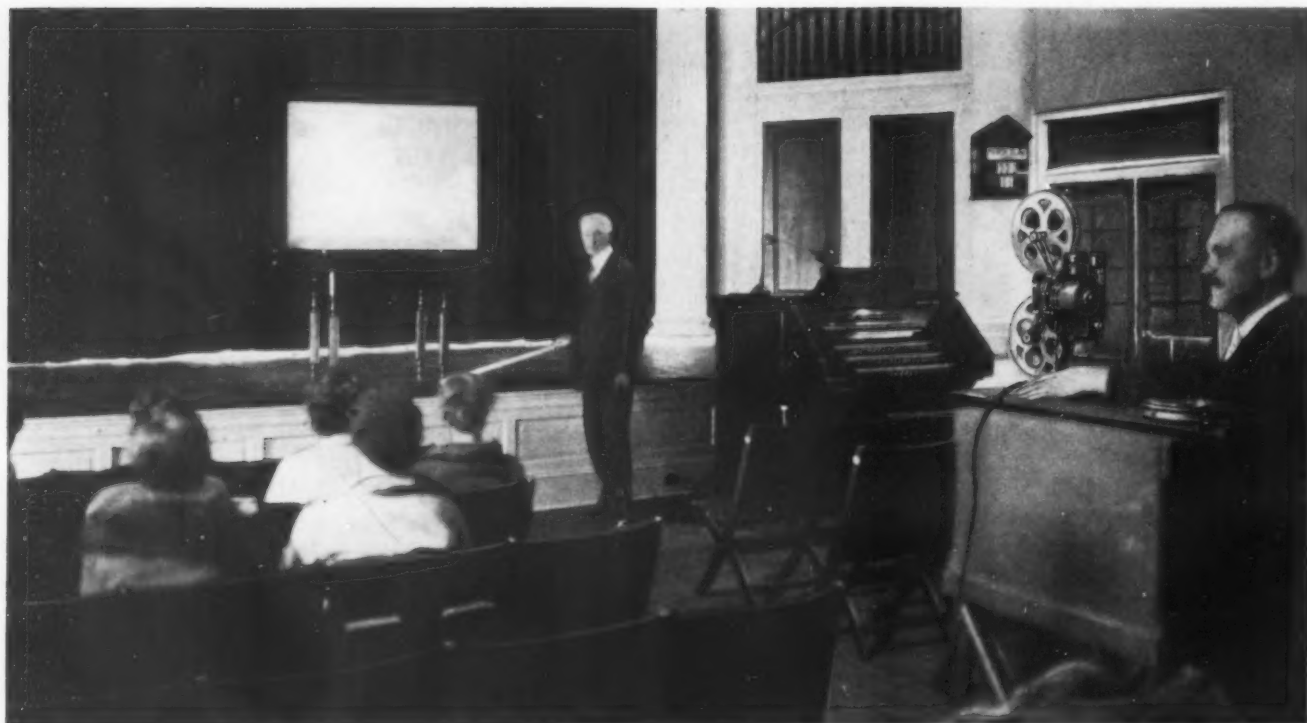


President and Mrs. Apple inspect a new memorial on the lawn in front of Hood College.



Above, a view of the tennis courts at Hood College; below, a rope jumping contest which was part of the May Day exercises.





Projecting a new reel for private inspection.

thus facing the audience, and a smile broke upon his countenance. This always brings a laugh from the audience. Thus ends the first reel, which is designated "Work."

The second reel is called "Play." It could have been named "Physical Education" since it includes all the outdoor work of that department. It opens with a game of field hockey between the girls of the college and the alumnae. It includes a baseball game between fathers and daughters. It includes old fashioned rope jumping on May Day. It covers track and field events, such as high and broad jumping, hurling the discus, hurdlings, running and walking races, archery, tennis and horseback riding. A trip is taken to the mountain log cabin owned by the athletic association, from which a rare view is shown of the valley where

"The clustered spires of Frederick stand,
Greenwalled by the hills of Maryland."

The hectic exodus at the Christmas holidays is shown. This is followed by a snow scene. The members of several conventions held at the college are pictured. Then the visitor, who plays an important part in the first reel, is taken up in the little airplane, "Challenger," from the neighboring airport, from which he is able to perfect his knowledge of the geography of the college.

The third reel is the most beautiful. It is termed, "Pageantry" and covers the colorful events of Campus Day in early October, the May Fête of early May, and commencement activities of the first week of June. Each of these events

brings large numbers of parents and friends to the college and each is spectacular in its own way. No description of the picturization of these events would do them justice, but to one who has seen them the reel brings pleasant memories.

To show these reels requires from forty to forty-five minutes. They are titled in such a manner as to need no explanation. A running commentary upon the scenes or subjects suggested by them adds to the interest, however. They carry the general suggestion of a day spent at Hood in viewing its plant, its equipment and its work, and of a college year during which play activities and picturesque pageantry pass in review. They are shown first to the incoming students during freshman week. They are in demand for meetings of the college clubs, for alumnae gatherings, for parent-teacher associations, granges, women's clubs, the meetings of luncheon clubs and for the assemblies of high schools. It is an interesting fact that of the last two projections of our films one was upon the wall of the bedroom of a shut-in who has not left his bed for four years, and the other was in the Frederick Home for the Aged, whose residents had heard a great deal of the college but which few had seen.

By means of a portable screen the pictures can be shown anywhere, provided there is an electric current, in a small private room or in a fairly large auditorium. The equipment is handled by our alumnae secretary, a young woman, by our superintendent of buildings or by the president when the case requires.

How to Improve Instruction in Junior Colleges*

Results obtained from the use of different teaching methods should be tested in an objective manner so that the best methods may be discovered and utilized

BY FLOYD W. REEVES, UNIVERSITY OF KENTUCKY

IN THIS discussion I shall endeavor to accomplish two things: first, to present a summary of efforts to improve instruction in 90 junior colleges representing institutions in all of the states in which junior colleges are located, and second, to describe in some detail the efforts under way to improve instruction at one junior college—an institution that is attempting to attack this problem in a thoroughgoing and scientific manner.

In summarizing the efforts to improve instruction at 90 junior colleges, I shall rely upon data derived from two sources: first, returns received from 79 institutions upon a questionnaire submitted to all of the 180 junior colleges listed in the 1928 Educational Directory, published by the United States Bureau of Education, and second, information obtained by personal visits to 20 junior colleges, some of which were those from which questionnaire returns were received.

Data Gathered Through Surveys

The visits to the 20 junior colleges were made in connection with more or less complete surveys of these institutions. The questionnaire was based upon information secured in connection with these surveys, together with information obtained from surveys I have made of a larger number of four-year colleges and universities, and from an examination of published studies relating to the improvement of instruction, which have appeared during recent years. In making the questionnaire investigation I have received assistance from Dean James C. Miller and Prof. Robert C. Abram, both of Christian College, Columbia, Mo. This investigation is not yet complete.

It will not be possible to do more than summarize the types of experiments under way and the technique and procedures employed, and to describe briefly a few concrete examples of efforts to improve instruction. However, when returns on the questionnaire have been received from a

larger number of institutions, it is our plan to complete the analysis of these returns and to publish the results of the investigation in a more complete form.

The first part of the questionnaire dealt with the administration and use of intelligence tests. Although intelligence tests have for a number of years had widespread use in elementary and secondary schools throughout the country, the development of their use by institutions of higher learning for students of college grade has been much slower. However the impetus given to the testing movement during the World War has carried over into the field of higher education, so that during the past decade rapid progress has been made in the development and use of intelligence tests at the college level.

The question was asked, "Have intelligence tests been administered in your institution during the past five years?" Forty-two institutions, constituting 60 per cent of the number replying to this question, reported that such tests have been administered. It is interesting to note that the junior colleges and senior colleges do not differ with reference to the percentage of institutions administering such tests. Adam Leroy Jones, Columbia University, in an investigation made in 1926 for the Association of American Colleges, reports on the use of intelligence tests in 330 standard four-year colleges. He found that 60 per cent of the four-year institutions were also administering intelligence tests.

Are Test Results Utilized?

Not all of the institutions that give intelligence tests to their students make use of the results obtained. In some cases, both among the junior colleges and among the four-year institutions, it appears that the tests have been administered with no definite purpose in mind. Of the 42 junior colleges that reported the administration of intelligence tests, only 28 stated that the test results had been used in administering the work of the institution. The accompanying table shows

*Read at a meeting of the American Association of Junior Colleges.

the uses made of the test results at the 28 institutions and also the estimate of the president, the principal or the dean with reference to the value of the tests for the purposes for which they were used.

The second phase of the investigation relates to the selective admission of students. A number of junior colleges, including most of those that receive their support through taxation, report that all applicants for admission who are high-school graduates and desire to enter are accepted. Other institutions make use of selective measures. Of 72 institutions providing information upon this point, 30 stated that some system

tive measures for the admission of students state that studies have been made of the predictive value of the criteria employed. Two of these institutions report that the findings of the studies made show that high-school grades constitute the best single predictive measure of probable success in college. Another institution reports in some detail the results of a study of the relationship between college grades and each of five factors. In the latter study, the correlation coefficients obtained were as follows: college grades and scores on the George Washington University Social Intelligence Test, by Moss, $+.32 \pm .09$; college grades and hours spent in study, $+.37 \pm .09$;

USES MADE OF INTELLIGENCE TEST RESULTS AT 28 JUNIOR COLLEGES AND ESTIMATES OF THE VALUE OF THE TESTS FOR THE PURPOSE FOR WHICH USED

<i>Use Made of Test</i>	<i>Number of Institutions Reporting</i>	<i>Valuable</i>	<i>Little Value</i>	<i>No Value</i>	<i>No Estimate of Value</i>
1. In determining the amount of school work students may carry	24	22	1	0	1
2. In encouraging bright students to undertake senior college work	23	21	1	0	1
3. In advising students in the selection of their academic work	20	14	5	0	1
4. In dealing with disciplinary (deportment) cases ...	17	10	4	1	2
5. For purposes of vocational guidance	15	12	2	0	1
6. In determining probation for low scholarship	14	11	2	0	1
7. As a partial basis for admission	13	10	2	0	1
8. In determining dismissal for low scholarship	12	10	2	0	0
9. In determining the amount of work for self-support	11	6	3	1	1
10. In hiring student clerical help	11	7	3	1	0
11. In making recommendations for scholarships	10	10	0	0	0
12. In sectioning students according to capacity for progress	10	8	1	0	1
13. As a basis for the admission of students with fewer than fifteen acceptable high-school units	4	2	1	1	0
14. In making recommendations for positions or for entrance to senior colleges	2	1	1	0	0
15. As a basis for guiding students into positions of leadership	1	1	0	0	0

of selection is employed other than scholastic preparation alone.

The bases for selection most frequently used are: high-school grades, personal recommendations, personal interviews, health certificates, student information sheets and intelligence tests. No junior college reports the use of intelligence tests as a sole basis for the selection of students, but several institutions report the use of such tests in connection with other criteria for the admission of those students giving promise of scholastic success. Three of the junior colleges report a highly developed selective system which includes several or all of the bases for selection that have been mentioned. However, with the exception of these three institutions, few junior colleges in the selection of their students are making maximum use of the criteria they have available for the prediction of scholastic success.

Five of the 30 institutions that employ selec-

college grades and scores on the Terman Group Intelligence Test of Mental Ability, $+.41 \pm .08$; college grades and scores on the College Classification Test, $+.53 \pm .08$; college grades and high-school grades, $+.55 \pm .08$; college grades and scores on the Bassett Test of Vocabulary, $+.56 \pm .08$. It will be noted that only one test used at this institution predicted college success as well as did high-school grades.

How to Predict Success

The other two institutions reporting studies of the predictive scholastic success found that combinations of factors constitute the best measures of success. One reports that a combination of intelligence test scores and high-school grades is the best predictive measure of success in college, while the other reports that a combination of intelligence test scores, high-school grades and scores on a test of English ability, constitutes the

best measure for the prediction of student success.

A recent summary¹ of a large number of published studies that have appeared during the past five years relating to the prediction of scholastic success, shows that all of the studies agree that there is usually a substantial amount of correlation between intelligence test scores and scholarship among any group of students. The fact that the correlation is not perfect indicates clearly that factors other than intelligence play a considerable part in the determination of scholarship levels, but the size of the coefficients of correlation obtained leave no doubt that intelligence is one of the basic factors conditioning scholastic success.

Some lack of agreement is in evidence among the studies presented with reference to the relative value of the various methods of predicting success. Although a majority of the studies seem to favor the psychological test as giving the best prediction, in a few cases the content examination or the high-school record appears to be the best measure for the prediction of success. A large amount of evidence is accumulating to show that no single measure by itself is a satisfactory index of ability to do college work successfully. A combination of several sorts of admission criteria serves as a more stable index than any single measure.

Sectioning Students Into Ability Groups

The third matter investigated was the extent of the practice of sectioning students into ability groups for instructional purposes. The plan of classifying students into homogeneous groups is being employed by an increasing number of institutions, including both junior and four-year colleges. Twenty-seven junior colleges out of a total of 70 reporting stated that students are classified into ability groups in some or in all subjects. Included among the 27 institutions that section students for instructional purposes are almost all of the larger junior colleges. The smaller institutions have not adopted this plan because of the extra expense involved in dividing small classes into two or more groups each.

The subject in which ability groups are formed most frequently is English. Fifteen of the 27 institutions reporting ability grouping state that students in English classes are so grouped. The bases for sectioning students vary among the institutions. In English, for example, students are sectioned at six institutions on the basis of intelligence test scores, at five institutions on the

basis of English placement examinations, at two institutions on the basis of high-school grades, at one institution on the basis of college grades and at one institution by a combination of methods.

The chief administrative officers of almost all of the junior colleges that reported the sectioning of students into ability groups stated that such grouping had been found to be a valuable instructional device. When students are classified on the basis both of ability and of achievement, they not only start out on an equal footing, but are able to progress with greater uniformity of speed than would be true if intelligence were not given consideration.

Measuring Instruction Methods

The fourth phase of the investigation related to the measurement of instruction. Thirty-eight out of 71 junior colleges providing information upon this point stated that studies have been made for the purpose of improving the grading system, and 31 of these institutions stated that the studies that were made resulted in definite administrative measures to improve the grading systems employed. Experiments in the field of psychological and educational measurement have demonstrated the unsoundness of traditional methods of examination and have provided techniques for the development of examinations of an objective nature, which are not subject to the same criticism as that made of the usual essay type of examination. A large majority of the junior colleges report the use of the objective or "New-Type" examination. The forms of this examination include true-false, multiple choice, completion, matching, recall and analogy. Of the 68 junior colleges answering the question, "Are 'New-Type' examinations used in your institution?" 62 stated that such tests are used. Of the 62 institutions reporting the use of "New-Type" tests, 25 use them in at least 50 per cent of their departments, and 15 use them in at least 75 per cent of their departments.

The fifth phase of the investigation related to curriculum studies and studies in teaching method. The question was asked, "Have any investigations been made during the past five years for the purpose of making curricular revisions?" Thirty-two institutions out of 69 replying to this question answered in the affirmative. A number of the presidents or principals of the institutions answering the question discussed the difficulties involved in bringing about curricular readjustments. One president made the following significant comment concerning the influence of the state university upon the curriculum of the junior

¹ Floyd W. Reeves and John Dale Russell, "Some Aspects of Current Efforts to Improve College Instruction," to be published soon as Vol. I, No. 2, Bulletin of the Bureau of School Service, University of Kentucky, Lexington, Ky.

college: "In considering curriculum problems we find ourselves restricted by the requirements of the University of Missouri which accredits us, and by the requirements of the various universities to which our students transfer." This comment is typical of those made by a large number of junior college administrators, not only in Missouri but in other states. There appears to be considerable sentiment upon the part of the junior college executives that the institutions they represent should be given more freedom in the development of their curricula.

The institution reporting the most extensive study of curriculum problems is Stephens College, Columbia, Mo. A research department, under the direction of W. W. Charters, has as its function the problem of organizing the educational curriculum of the college for young women so that the subject matter taught should, as fully as possible, be useful to students in meeting the problems and carrying on the activities that concern women most in the home, in business, in the community in which they live and among friends. Thirty-five curriculum studies had either been completed at Stephens College or were under way on September 1, 1928. The results of a number of these studies have already been utilized in developing the curricula of the institution.

During recent years much discussion of the relative merits of different methods of teaching has appeared in educational literature. The lecture method of instruction, the laboratory method, the discussion method, the recitation method, the conference method and the oral quiz have all been subjected to varying degrees of praise and condemnation. Most of the arguments employed appear to be based upon theoretical considerations, since carefully controlled experimentation to determine the relative merits of different teaching methods in junior colleges has not been widely undertaken.

Teaching Methods Should Be Tested

Published reports relating to this matter are few and the questionnaire returns obtained from the junior colleges indicated that not many of these institutions are attempting to study this problem objectively. Only eight junior colleges out of sixty-nine that provided information upon this point reported that experiments of teaching methods had been made, and a further analysis of the data submitted indicates that in the case of some of the eight institutions reporting experiments, no attempt was made to control the experimental conditions. The conclusion is unavoidable that the methods of teaching employed in junior colleges have been selected primarily upon

the basis of opinion, custom or tradition, and not upon the basis of their value as determined by controlled experimentation.

While it is to be regretted that so little study has been made of the relative merits of different teaching methods used in junior colleges, it is only fair to state that the situation in these institutions appears to differ little in this respect from that in four-year colleges and universities. Recently I have had an opportunity to investigate the extent to which four-year institutions are studying problems of teaching method. Data for the investigation were obtained by means of personal visits to 60 colleges and universities, the visits being made in connection with surveys of the institutions. As a result of this investigation it was found that only a few of these institutions are carrying on carefully controlled experiments of the relative value of different methods. In proportion to the size of the institutions and the number of faculty members involved, the experiments under way in the four-year colleges and universities are probably no more numerous or significant than those in the junior colleges.

Diagnosing Student Difficulties

Regardless of the care that educational institutions may take in the admission of students, the fact remains that students are often admitted who, because of poor preparation, low intelligence or nonintellectual traits have difficulty with their scholastic work. An attempt was made to find out what junior colleges are doing with reference to diagnosing student difficulties and carrying on remedial work. Out of the 66 institutions that have provided information relative to this point, 27 reported that studies have been made to determine the reasons why students fail. The reasons given for student failures varied greatly among the colleges reporting. The two causes mentioned most frequently as contributing to failure were poor study habits and poor high-school preparation. One institution reported that the most important causes contributing to the failure of students are emotional stress, homesickness, bad adjustments and too much money to spend. A second institution stated that the most important reasons for student failures are poor study habits, lack of interest due to faulty vocational guidance and lack of adequate high-school training. Other reasons for failure mentioned by one or more of the institutions that reported were: indefinite assignments; failure to follow up work assigned; lack of inspiring teachers; nonattendance; lack of objective; too many extra-curricular activities; too many local students and lack of intelligence.

Students and teachers do not always agree as to the reasons for failure. An institution in California reports that the students ascribe 43 per cent of the failures to poor study habits, while the teachers ascribe only 31 per cent of the failures to poor study habits. The students assign 19 per cent of the failures to outside interests while the teachers assign only 6 per cent of the failures to this cause. However, the teachers express judgment that 20 per cent of the failures are due to absence and 22 per cent to low intelligence, while the students express the judgment that only 13 per cent of the failures are due to absence and only 8 per cent to low intelligence.

A means adopted by a large number of junior colleges to improve the quality of students' work is to give definite instruction in the use of the library. Out of 75 institutions providing information upon this point, 81 per cent provide instruction in library use and 37 per cent require all students to take this instruction.

With reference to instruction in the use of the library, junior college students appear to be better off than senior college students. English¹ reports the results of a study of instruction in the use of the library in 92 four-year colleges. Only 46 per cent of these institutions offer library instruction and only 25 per cent of them require students to take this instruction.

As a means of preventing student failures, a considerable number of the junior colleges offer courses in methods of study. Out of 73 institutions providing information upon this point, 31 report that a course designed to teach students how to study is provided and 18 state that credit is given for the successful completion of this course.

Contrasting the Teaching Personnel

The greatest contrast between junior colleges and four-year colleges appears to be in the teaching personnel of the two types of institutions. Surveys I have made show that the average number of years of graduate training of teachers in the four-year colleges is considerably above that of teachers in junior colleges. However when the training of teachers of independent junior colleges is compared with that of teachers in four-year institutions who are in charge of junior college classes, little difference is found in the number of years of such training.

The major difference between the two groups of teachers is not a difference in the number of years of training, but a difference due to teaching experience and to the type of training received.

Forty-seven junior colleges out of 76 reporting require all applicants for positions to have had some previous teaching experience, and all of the other 29 institutions state that applicants with teaching experience are preferred. In contrast to this situation, not more than a half-dozen of the 60 four-year colleges and universities from which similar information is available require teaching experience of applicants for positions.

Fifty-seven junior colleges out of 74 reporting require teachers to have had courses in education. At 29 of the 57 institutions requiring education courses, the requirement ranges from 15 to 18 semester hours of professional training. Of the other 28 institutions requiring education courses, 13 require less than 15 hours, 9 require more than 18 hours and 6 failed to state the requirement in terms of semester hours. In contrast with this situation found in the junior colleges, not one among the 60 four-year institutions from which information upon this point was obtained requires education courses of applicants for positions, although a number of the four-year institutions do give preference to teachers who have had professional training.

How Many Colleges Supervise Instruction?

A third point of difference between junior colleges and four-year institutions is in the supervision of instruction. Out of a total of 72 institutions providing information upon this point, 53 stated that provision is made for the supervision of instruction and 47 of these stated that the supervision provided includes the observation of classroom teaching. Recent investigations of the supervision of instruction in four-year colleges, made by myself and others, lead to the conclusion that a large majority of the four-year institutions make no attempt to supervise instruction and that few of those that do attempt such supervision, include as a part of the supervisory program, the observation of classroom teaching.

Thus far I have presented in brief form a summary of efforts to improve instruction in junior colleges. I shall now proceed to describe in somewhat greater detail the plan under way to improve instruction at Christian College. This institution has been selected for two reasons, first, because of the care with which the program has been worked out, and second, because I have some first-hand information concerning the improvements that have been brought about at that institution. A brief description of the program for improvement carried on last year and the program now under way, will serve to illustrate the methods employed there for the improvement of instruction.

¹ Ada Jeannette English, "How Shall We Instruct the College Freshman in the Use of the Library?" *School and Society*, XXV, December 25, 1926, 779-85.

At the first faculty meeting of the year, held prior to the opening of the session, the discussion centered around the importance of professional study and growth. An outline program of faculty meetings was then presented to the teachers by the dean of faculty and a program committee was appointed. Announcement was made that faculty meetings would be held twice each month, one meeting to be given over entirely to a discussion of professional topics and parts of the other meeting not needed for administrative purposes to be devoted to professional study. The teachers were informed also concerning a professional library to be made available for their use.

Books Selected for Study

Twelve books were selected for study. These books were purchased by the institution, several copies being obtained of each of the more important books. The following books were selected: Kelly: *The American Arts College*; Morrison: *The Practice of Teaching in the Secondary Schools*; Wood: *Measurement in Higher Education*; Klapper: *College Teaching*; Headley: *How to Study in College*; Kilpatrick: *Education for a Changing Civilization*; Kilpatrick: *Foundations of Method*; Koos: *The Junior College*; Charters: *The Teaching of Ideals*; Knox: *School Activities and Equipment*; Stowe: *Modernizing the College*; Proctor: *The Junior College*.

At the first professional meeting a mimeographed copy of the results of the freshman intelligence tests was placed in the hands of each teacher. The hour was given over to a discussion of the interpretation, significance and use of these tests.

The second and third professional meetings were used for discussions of "The American Arts College," by Kelly. The topics that aroused the most interest were the measurement of instruction and personnel management. So much interest and such a diversification of opinion resulted from these discussions that the program committee arranged to devote one additional meeting to each topic. Luther T. Purdom, personnel director, University of Missouri, was invited to conduct a discussion on personnel management. He presented the results of several experiments and studies. After his presentation the meeting became an open forum for discussion.

At the meeting given over to a discussion of measurement, a study was presented of the distribution of grades at Christian College, and several contributions to the literature in the field of measurement were discussed.

At the following meeting Part I of Morrison's book, "The Practice of Teaching in the Second-

ary Schools," was studied. The discussion centered around the new conception of secondary education. Following this discussion the dean presented the programs prepared by the committee for the remainder of the year. He explained that the committee had decided that the faculty members were sufficiently familiar with the professional literature to enable them to make some practical applications to their own classroom situations. The plan proposed called for a presentation by selected faculty members of a discussion of modern tendencies in their own particular subjects, and the use made of scientific technique. The hope was expressed that the one presenting the subject would benefit professionally by being called upon to outline and to defend his course, and also that those listening would benefit professionally by gaining a better understanding and more respect for the subject of a co-worker.

Early in the first semester the dean of the faculty began to visit classrooms. The teacher was notified the day before his class was to be visited. The class was observed for the entire period. A few notes were made by the dean after his return to the office. The teacher was then invited to the office for a conference. First, the strong points of the lesson were spoken of briefly, then suggestions as to the possible methods of improvement were discussed. A splendid spirit has been displayed by the teachers and class visitations have actually been requested by them from time to time.

Results Achieved at Christian College

The officers of administration of Christian College report that the program carried on last year for the improvement of instruction had the following results: (1) an improved professional spirit, manifested by increased interest in faculty meetings; (2) increased use of objective tests; (3) improvement in the distribution of grades; (4) the development of plans for some form of personnel directing agency; (5) requests from teachers for an extension class or a series of lectures in college teaching methods, and (6) marked interest in professional literature.

Early during the present year a number of studies relating to the improvement of instruction were undertaken. The dean of the college and the head of the English department are collaborating in a study, made under carefully controlled conditions, of the effects of remedial instruction in reading upon the success of students in college English. A similar study of the effects of remedial instruction in reading upon success in home economics is being made by the head of

the home economics department. The teacher of hygiene is attempting to measure the results of her instruction, not merely in terms of knowledge gained but also in terms of correct health habits formed. The teachers of foreign languages are planning an extensive experiment to test out the relative value of the indirect method and of the modified direct method of instruction. Other investigations are being planned for the second semester.

My discussion may be summarized as follows: A beginning is being made in a scientific approach to the problem of the improvement of instruction in the junior college. With reference to the use of objective measures of intelligence and achievement, to investigations of methods of teaching and to remedial measures for students having scholastic difficulties, the independent junior college compares favorably with the four-year institution. With reference to teaching personnel, the investigation shows that junior college teachers are as well trained as teachers of junior college students in four-year institutions, when training is measured in terms of years of graduate work; that junior college teachers are better trained than teachers of junior college students in four-year institutions, when consideration is given to professional courses in education; and that junior college teachers are selected more frequently upon the basis of teaching experience than are teachers in four-year colleges.

Carefully controlled experimentation to determine the relative merits of different teaching methods at the college level has not been widely undertaken. There are few published reports dealing with this important problem and the questionnaire returns from the junior colleges show that only a few of these institutions are attempting to study this problem objectively. The limited extent to which controlled experimentation has been carried on leads to the suggestion that investigation of this type needs to be encouraged.

More Than 200 Different Jobs Are Open to College Students

College students who are earning their way through school are working at jobs and trades of all kinds characteristic of the community—automobile jobs, office jobs, specialty selling, semi-professional work, tutoring, printing and publishing jobs, public service work, transportation employment, hotel and eating house jobs and a variety of odd jobs. More than 200 different types of employment for college students are

listed. Some of the more original are making their own opportunities. Those gifted in color and design create artistic novelties and decorations that find ready sale among students and citizens. Talented students give lessons in music, bridge, golf or are employed as entertainers, readers, soloists and orchestra members to provide entertainment at dinners, dances and parties. Probably waiting on table is the most popular employment of the self-help student. Usually a corps of student waiters or waitresses serve in the college dining halls at mealtime and are thus employed at a time that does not interfere with the enjoyment of the scheduled college activities outside of the classroom. In some colleges window cleaning has developed into a business. Other enterprises include suit pressing, haberdashery, concessions, sandwich and pastry selling, hair cutting, coaching, tea room management, sewing and an endless list of miscellaneous occupations.

In the average college town, demands are made for students to do house work, care for children, fire furnaces, shovel snow, make repairs, wash automobiles, tend switchboards, clerk in stores, assist in post offices, act as night watchmen, drive taxis and busses, work as motor-men and conductors, care for buildings and grounds, and in fact to do any type of work that does not require full time during daylight hours. Many men as well as women perform household tasks in the homes of the town people. New students, however, find opportunities limited unless they have made previous arrangements by correspondence with the student employment bureau or with the college agency that assigns jobs to students.

Public-School Reading Lessons Adjudged Obsolete

A lengthy experiment, covering a period of five or six years, and costing nearly \$100,000 conducted by Dr. Herbert B. Bruner, co-director of the bureau of curriculum research, Teachers College, Columbia University, has resulted in the finding that the reading lessons, as given in the public schools, are obsolete.

This was the opinion not only of Doctor Bruner, but of 100,000 school children and 3,000 teachers whose opinions were solicited. It is evident, according to Doctor Bruner, that the survey is a cross section of the interests of the children themselves in what they read, as well as of the mature judgment of the teachers as to what their pupils ought to read.

The NATION'S SCHOOLS

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Editorials

A Man's Job

THE United States Bureau of Education has been making surveys of public school systems and as a result of a recent survey certain recommendations were made regarding the policies that should govern a superintendent in his management of the schools of which he has charge. The bureau says that a superintendent should attend to the following duties:

1. Attend all meetings of the board and all committee meetings.

2. Nominate all supervisors, principals, teachers and other employees and present evidence that the persons he has recommended are qualified for the positions.

3. Recommend for discharge or retirement any employee under his direction whose influence or services are so unsatisfactory as to warrant such action, subject to approval of the board.

4. Recommend textbooks, instructional supplies, apparatus and equipment, and have general charge of their purchase, storage and distribution.

5. Prepare, in conference with supervisors, principals and teachers the content of each course of study authorized by the board of education. After the board has authorized a course of study, such as a course in Spanish, the preparation of it should be in the hands of the superintendent and his assistants.

6. Determine the boundaries of school attendance districts, subject to the approval of the board.

7. Direct the supervision of instruction in the elementary, junior high and senior high schools and in all special schools, and direct the supervision of all auxiliary agencies of the schools, such as extra-curricular activities.

8. Assign, upon approval of the board, principals, teachers, janitors, nurses and other employees of the board to the schools where their work is to be done; transfer them from one school to another when such seems to be desirable.

9. Prepare, in conference with the secretary of the board and others in possession of the necessary facts, the annual budget, showing in detail the appropriations necessary to meet the estimated needs of the ensuing school year, and submit the same to the board of directors for consideration and action.

10. Have power, within the limits of the detailed budget, approved by the board, to approve and direct all purchases and expenditures, making report to the board at each monthly meeting.

11. Have general charge of the operation and maintenance of the buildings and equipment of the schools and the maintenance of grounds.

12. Report to the board from time to time concerning the achievement and progress of the school system. Prepare an annual report setting forth the condition of the schools.

13. Direct a continuous study of the need for new school sites and school buildings.

14. Recommend plans for new buildings.

15. Keep an efficiency record of all principals, teachers and other employees.

16. Issue employment certificates and enforce compulsory attendance law.

17. Keep himself informed by study, visitation and attendance upon state and national educational meetings, concerning the important educational movements and report the same to the board of directors. The necessary expenses for attending state and national meetings should be paid by the board of education.

Salary Is Inadequate

Is there any other official in any community who is charged with so many responsible duties as the school superintendent? Is there any president of a manufacturing establishment, or head of a store or life insurance company, or any engineer who is supposed to be familiar with as many kinds of knowledge and activities and expected to have executive ability in as many directions as the superintendent of schools? It is reported that the managers of big department stores receive salaries of \$100,000. The president of a life insurance company or a steel company may receive more than this. The president of a university generally receives from \$20,000 to \$25,000. Why is it that the superintendent of schools who—to put it mildly—has as responsible a job as any of these other fellows does not receive as much as one-half, one-third, one-fourth or one-tenth of their salary?

Teaching the young idea how to shoot has been the Cinderella among the professions. The superintendent of schools has been looked upon as more or less of a clerical officer. But the situation in this respect is changing with great rapidity. The enormous responsibilities of a superintendent of schools in a community of any considerable size are beginning to impress the layman. Only the strongest and most capable of men can survive in these positions and the layman cannot fail to note that the superintendent

is a leader among men. He not only has superior intellectual endowments but he has forceful qualities of personality beyond that of the heads of commercial and industrial establishments. The prediction is ventured that the superintendency of education in a community will command increasing respect from the layman and an honorarium adequate to relieve the superintendent of worry about personal financial affairs. We are headed in this direction now and we are moving with some speed.

As One Thinks, So Is He

YOU have probably observed that if you hear a new word and think about it, you involuntarily try to pronounce it. Perhaps you have had the experience of hearing a person stutter or stammer. If you permitted yourself to think about it, you probably found that you tended to stutter or stammer, too. Do you ride a bicycle? Have you ever looked ahead, noted a dangerous obstacle and said to yourself, "I must not run into that object"? What happened when you kept this thought in mind?

A mind reader will ask you to blindfold him so that he cannot see anything. He will then suggest that you think of some point in the room and keep it constantly in your thought. He will then take hold of your hand and read your mind so that he can go straight to the point you have been thinking about. All sorts of variations of this stunt are performed by mind readers. Do you see how they work it? You keep the point in mind and you guide the mind reader through your own muscles. You actually pull him to the point although you do not know that you are doing it.

Another type of mind reader will ask the subject to blindfold him very securely. He will then hand a book to the subject and ask him to indicate a word on a page any place in the book and then to keep the page and the word constantly in mind. The subject next takes hold of the wrist of the mind reader, who begins to turn the pages until he finds the one on which the word is located. Then he begins to trace the lines with his finger and finally comes to the precise word. He claims that he is able to accomplish this through mind reading, but in every step he is guided by the muscles of the subject whose thoughts find expression in action, although he is not aware that he is actually guiding the mind reader. There are a great many variations of this kind of mind reading.

Experiments are sometimes made in psychological laboratories in which it is possible to

measure the effect upon circulation in a certain part of the body by concentrating thought upon this spot. By delicate measurements it can be shown that persons who concentrate thought sufficiently can apparently increase the circulation in any organ by thinking about it.

It is apparently true that some persons by morbid thinking can cause a disturbance in digestive functions or the action of the heart or even respiration. I have been observing a susceptible person who was made the victim of a serious practical joke. Three medical students conceived the idea of examining one of the nonmedical students in their rooming house for the purpose of suggesting to him that his heart was in a precarious condition and that he would have to refrain from all exercise except walking very slowly. They pretended to test his heart on several occasions, and they finally confided to him hesitatingly and with evidences of great depression that they had found his heart to be so seriously affected that any lively act might precipitate a crisis. The poor fellow kept his heart in mind and actually produced an irregularity in its functions although he did not produce any physical injury to his heart by thinking about it. This incident was brought to the attention of medical teachers, and they told me that when students study heart irregularities they often become morbid about their own hearts and actually by thinking produce functional disturbance.

Avoid Negative, Morbid Thoughts

Multitudes of instances come to mind, but I mention only one more. Not long ago I was a passenger on an overland train running from San Francisco to Chicago. Shortly after the train left San Francisco, a man introduced himself and began a conversation. Throughout the trip he was concerned principally about his digestive processes. He gave me a graphic account of the workings of his internal machinery. Practically every article of food he consumed caused some kind of tragedy. By the time I arrived in Chicago my own internal mechanism was beginning to manifest symptoms of disorderly behavior, and if I had had to continue with the man to New York I know I should have been unable to digest anything normally.

Watch a tight-rope walker performing a difficult stunt. He always looks where he wants to go and not where he does not want to go. He has learned the lesson that if he keeps his mind on danger he will certainly run into it. We can all take a lesson from the tight-rope walker.

Negative minded people are always getting into the trouble that they try to steer clear of,

while positive minded people are never troubled by disaster either physical or moral because they have goals toward which they are striving and they do not stray into bypaths that lead them into difficulty.

If you have a companion who is inclined to be morbid about his physical condition and who describes his aches and his pains to you, tell him that if he ever talks about his troubles again you will bid him good-bye. The hypochondriacal person dwells on his physical ills and his social misfortunes, and augments them until for all practical purposes he actually suffers from them although in reality they exist only in his mind. If an individual actually thinks that his internal organs are working well so that he does not have to worry about them, they function more strongly and smoothly than if he is apprehensive lest something happen to them.

Was Summer Designed for Mental Loafing?

THE mental habits and the regular routine of life developed during eight or nine months in a typical American school are largely lost during three months on the streets or even on the playground. Every teacher knows that it requires three or four weeks at the opening of school in the Fall for pupils to reestablish habits of mind and body adapted to intellectual work.

It is wasteful to follow a plan that makes it necessary to spend two or three or four weeks every year in redeveloping habits acquired the previous year and lost during months of idleness in the summer. Further, it is a hardship for the children to be wholly unoccupied mentally during the summer and then to be required in September to adjust themselves to an entirely different regimen.

Mental economy and hygiene advise that in intellectual work it is preferable to have frequent relaxation periods to relieve strain rather than to continue at a task until exhaustion arrives and then have a long idle interval. An educational program worked out in accordance with this principle would keep the schools in session throughout the year, but with frequent breaks long enough to release tension and to give a feeling of refreshment. The school year should be divided into four quarters, with a week's vacation between the quarters. There are, of course, the Saturday and Sunday holidays each week and the festival days in each quarter.

"The summer is not a good time for study." Who has not heard this phrase a thousand times?

It is one of those phrases that have persisted from early days when people wanted their children to work during the summer and in self-defense evolved the theory that summer months are not appropriate for mental work.

Universities, colleges and normal schools formerly operated in accordance with the doctrine that summer is unfavorable for mental improvement. How many of the higher institutions are closed now during June, July and August? Even in the Southern states, where the heat is intense, most of the colleges hold summer sessions. The students do acceptable work and are as happy and as healthy as they are during the cooler months.

It is not forgotten, of course, that outdoor life is more inviting in summer than in winter; but schools conducted on the all-year plan take account of this fact. Their sessions begin early in the morning and they have longer periods for outdoor activities. Wherever it is possible, the program of work provides for botanical, geographical and zoological exploration, outdoor dramatization, arithmetical and other forms of measurement out of doors, the making of outdoor maps and similar studies.

Where there are school playgrounds, programs are arranged so that there is extra time for games and plays during the summer months. These programs, however are as appropriate for May, June and September and often for October, as they are for July or August. The traditional school takes little or no account of the attractiveness of the out of doors during April, May and June, and early autumn. Schools organized on the all-year plan take every advantage of fair weather and they do not need to wait until the long vacation for out-of-door activities.

A Waste of Public Funds

Why have we not utilized the vast investment that we have in school buildings and equipment? The world has never seen anything approaching the magnitude of our public-school plants. Schools costing millions of dollars to build and hundreds of thousands of dollars to equip have been or are being erected in communities everywhere throughout the country. But there they stand, idle for two or three months during the summer. Is there any other public enterprise that is as wasteful as this? There are the children of the city on the streets, in the way of traffic, annoying people engaged in business and being annoyed by them in return, causing their parents anxiety and the officers of the law continual worry, while the magnificent institutions remain closed that could entice the children off

the streets and keep them interested and wholesomely occupied for a considerable part of every day. How much longer will our people tolerate such a situation?

They will not tolerate it much longer in many communities. In a number of cities throughout the country, school superintendents, teachers and boards of education are laying plans to conduct schools on the all-year plan. Voices will be raised against such a program. Half a dozen timeworn objections will be advanced, no one of which is valid for all the children of any city in the land. There are, of course, some children who can go to the seashore or to Europe during the summer, or who can spend two or three months in the mountains or on a farm. It might be better for such pupils to have a long vacation than to attend an all-year school. Such children, however, constitute a small proportion of all the children who have to be cared for in our American cities. It is the ninety-odd per cent who cannot leave the city from two to three months during the summer for whom the schools should be kept in operation continuously, except for brief periods of relaxation and refreshment.



What Can Be Done About This?

A WELL known adviser to the lovelorn, who publishes a syndicated article every day in many newspapers throughout the United States receives a minimum of 500 letters a day and often her mail runs to 1,000 letters a day. To judge by the content and style of the letters and the handwriting they are written by educated as well as by ignorant persons and come from rural as well as urban sections in every state.

The troubles concerning which the letter writers seek advice are always personal in character. They relate mainly, though not wholly, to the adjustment of the sexes. Advice is sought on ways and means of improving the personal appearance to intensify the lure of sex appeal. The writer of every letter is in distress. Either he—more often she—is ignored by those whose attention he craves or else he is in rebellion against the conventions that restrain him in one way or another, the meaning and necessity of which he does not understand.

The sufferers cannot confide in anybody but the adviser, they tell her, because they have never heard any discussion of the matters that are troubling them and they think it improper to talk face to face with anyone about their emotional experiences. So they unburden themselves and seek counsel through the written word. It is not so embarrassing for a harassed individual to ask

guidance from one who cannot see him and observe his confusion or ply him with disturbing questions.

The adviser answers many of her correspondents by letter and others through the column of the daily newspapers. The advice given to all inquirers can be simmered down to a few general suggestions: If the correspondent is married and unhappy, he should make the best of it because if he gains release from the marriage bond he will be no better off in his next venture. Men—not so frequently women—are always cheaters in sex relations; anyone who knows men understands that they cannot be trusted to keep a marriage vow. They are selfish, inconsiderate, seeking only their own comfort. Women must resignedly accept such a situation. There is no relief for them.

Advice Given Is Not Specific

If the inquirer is considering whether he should marry, he is advised to think the matter over carefully and to abandon the idea that if he enters marriage he will be eternally happy. If he wishes to know how he should behave in the presence of one whose affection he desires, he is told that he must observe the conventions fairly well because by so doing he will be better off in the end. If he is grieved because he has lost a friend and wants to know how he can again win his affection, he is advised to seek other friends elsewhere and not to worry over the one he has lost.

The deepest impression made upon those who have analyzed the letters and responses and tabulated the difficulties concerning which youths, and adults too, are writing to the adviser for assistance, is that there is a vast multitude of people who cannot solve the problems that arise in sex adjustments. The one who advises them does not get to the bottom of their trouble. The counsel given them is superficial, inadequate and often harmful because it does not take into account the complexities of the situations to which it relates.

Here is a field for service that is wholly untouched by the schools. Can anything be done about it? Could junior and senior high-school boys and girls be given morning talks or something of the kind that would have to do with every-day problems of sex adjustment in modern life? The adviser publishes every day in the newspapers three or four of the letters she receives and makes comments upon them. Could an experienced teacher, who is a student of human nature, take these letters and base upon them talks that would be of real service to young

people? If a teacher should let it be known without public announcement that he would act as a confidant of those in distress, would they bring their troubles to him instead of writing them to the adviser? Would it be possible for a teacher to gain the confidence of pupils so that they would lay their personal difficulties before him?

Two things bearing upon this matter are certain. The first is that a large proportion of young people are unable to negotiate the problems that arise in sex adjustment in contemporary life. The second is that most of them are not receiving helpful guidance from those who are conducting columns in the newspapers.

Formal education does not touch the problems presented in the letters that have been analyzed. The development of ability to reason in geometry, Latin, history or any other school subject may leave a pupil as helpless as an infant in reasoning sanely concerning the situations that confront him when he is unable to obtain or has lost the affection of a friend or a relative, when he has become moody about his personal characteristics and suffers from an inferiority complex or when he does not know how to steer his course among the conventions that restrict his activities in daily life.

World Peace Through Education

MORE movements designed to promote peace among men by means of education are going forward throughout the world this year than in all the preceding years since the world began.

The latest movement that has been reported originated in the Argentine republic. An institute was founded in Buenos Aires in May, 1928, the purpose of which is to cultivate an understanding between the peoples of Latin America—of Argentina in particular—and the people of the United States. The institute will encourage exchange of students between Latin American countries and our own country. The study of English in the schools of Latin America and of Spanish in the United States will be fostered. Lecturers will be exchanged between the countries for the purpose of interpreting the ideals, institutions and habits of life of one people to another people. This is encouraging and gratifying to teachers in our country who have been laboring for the dissemination of knowledge that would help nations to understand one another.

Understanding is essential for the development of peaceful relationships, and understanding can be secured most effectively through educational agencies.

Index Numbers for School Supply Prices

The prices of products depending upon metals are likely to remain at the present level or may rise slightly

By HAROLD F. CLARK, PROFESSOR OF EDUCATION, TEACHERS COLLEGE, COLUMBIA UNIVERSITY, AND JOHN GUY FOWLKES, PROFESSOR OF EDUCATION, UNIVERSITY OF WISCONSIN

THERE is a possibility that there may be a slight increase in the prices of supplies dependent upon metals.

The prices of the more important metals will continue steady or may go slightly higher. Copper shows the greatest tendency to increase in price, the increase in the prices of iron, steel and some other metals not being quite so marked.

As was noted last month, there is still considerable overproduction of paper products and the market for these commodities is flooded. As a consequence, therefore, prices for paper are likely to remain around their present levels. Steps are now being taken to limit paper production, but it is likely to be some time before such curtailment, if it is effected, is reflected on the paper market.

It is probable that the price of supplies dependent upon textiles may increase slightly.

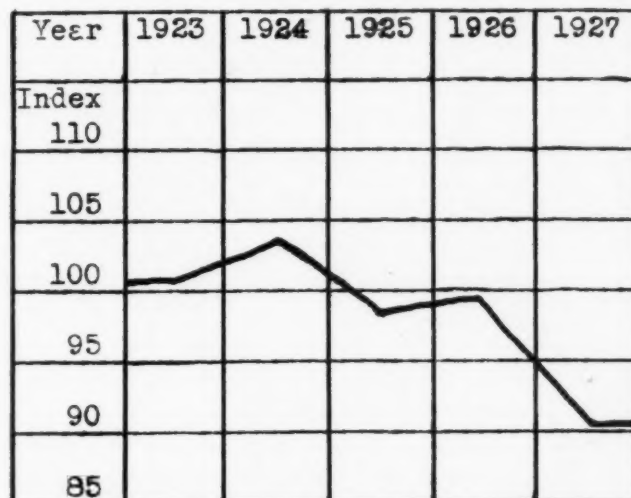


Chart II. Annual index of the prices of instructional supplies.

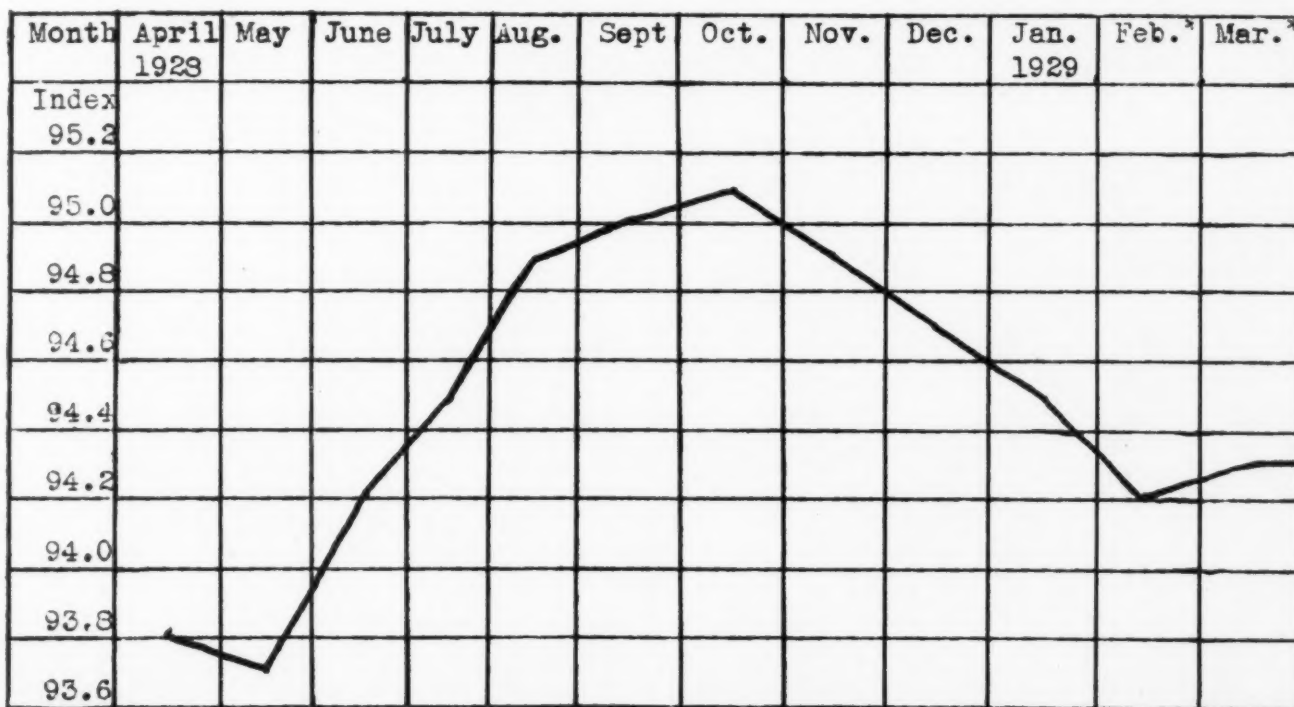


Chart I. Monthly index of prices of instructional school supplies. February and March indexes are not final.

Your Every-day Problems

JOHN GUY FOWLKES, THE UNIVERSITY OF WISCONSIN, DIRECTOR

This department is devoted to an informal discussion of problems arising in the every-day life of principals and superintendents. The following discussions are based on answers to inquiries recently received by the director. Similar inquiries are invited and should be addressed to Dr. John Guy Fowlkes, University of Wisconsin, Madison, Wisconsin.

Making a School Calendar

Much interest has been shown recently concerning the making of a school calendar. Some of the most important questions that arise in connection with the organization of a school calendar are: On what date shall school begin? On what date shall school end? What holidays shall be given? How long shall the Thanksgiving, Christmas and Easter holidays last? How many actual teaching days must be provided? Shall the school year be organized into two semesters? Shall the school year be organized into three terms? Shall all school months have the same number of teaching days? This is particularly important in connection with the pay roll procedure in many localities. If the semester plan is followed, shall all terms have the same number of teaching days? If the term plan is followed, shall all terms have the same number of teaching days?

The dates on which school should begin and end are governed in part by the climatic conditions of a community. It is a common practice in

the Northern, Eastern and Western states for school to begin the first Tuesday or the first Monday after Labor Day. In the South the beginning date is much nearer the first of October in many localities, although recently there has been a concerted effort to make the beginning date of school the same as that in the other states. Obviously, similar practices maintain with respect to the closing dates of school in the South.

Inasmuch as Spring vacation is usually not given in the Southern states, it is possible to dismiss school during the first two weeks in June. There is a growing tendency towards granting two days for attendance at teachers' association meetings in the Fall, either late in October or early in November, and from one to two weeks' Christmas vacation is granted everywhere. In the East and North, a Spring vacation of from a few days to two weeks is usually granted. Although the length of the school year is fixed by statutory provision in many states, there is a difference in the interpretation of the actual number of teaching days necessary to fulfill legal requirements. The commonest practice with re-

September					October					November					December					January				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
2	3*	4	5	6	1	2	3	4						1	2	3	4	5	6			1	2	3
9	10	11	12	13	7	8	9	10	11	4	5	6	7	8	9	10	11	12	13	6	7	8	9	10
16	17	18	19	20	14	15	16	17	18	11	12	13	14	15	16	17	18	19	20	13	14	15	16	17
23	24	25	26	27	21	22	23	24	25	18	19	20	21	22	23	24	25	26	27	20	21	22	23	24
30					28	29	30	31		25	26	27	28	29	30	31				27	28	29	30	31
February					March					April					May					June				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
3	4	5	6	7	3	4	5	6	7	1	2	3	4					1	2	2	3	4	5	6
10	11	12	13	14	10	11	12	13	14	7	8	9	10	11	5	6	7	8	9	9	10	11	12	13
17	18	19	20	21	17	18	19	20	21	14	15	16	17	18	12	13	14	15	16	16	17	18	19	20
24	25	26	27	28	24	25	26	27	28	21	22	23	24	25	19	20	21	22	23	23	24	25	26	27
					31					28	29	30			26	27	28	29	30					

*Counted as school day. No pupils.

Calendar No. 1

Announcing

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ANNIVERSARY EDITION

Ready May 1, 1929

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2. The rules are more simple, direct, and definite, and abundant drill is provided for each. In harmony with modern pedagogy, the rules have been relegated to their proper place—in the background of the learning process of a skill subject.
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4. Each chapter is subdivided into three short logical teaching units. The reading and dictation material has been more than doubled. The book contains 36 pages of graded business letters and sentences in shorthand, and 12 pages in type to furnish constructive practice.
5. The pedagogical organization of the book is greatly enhanced by the use of larger type and a bolder, more easily read style of shorthand than is employed in the present Manual.

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spect to the actual number of teaching days is from 180 to 195 days.

In preparing the school calendar for 1929-1930 in a Northern city the accompanying five calendars were considered. The choice of the calendar depends in part on local conditions and the desires of the teaching staff. It is extremely desirable, however, that the school calendar be drawn

up as carefully as possible in order that no changes will be necessary.

The director of this column would particularly like to receive any comments or additional information on school calendars.

Calendar No. 1

Schools open September 3, close June 24; two semesters of 95 days each. All except two months

September					October					November					December					January				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
2	3*	4	5	6			1	2	3	4				1	2	3	4	5	6			1	2	3
9	10	11	12	13	7	8	9	10	11	4	5	6	7	8	9	10	11	12	13	6	7	8	9	10
16	17	18	19	20	14	15	16	17	18	11	12	13	14	15	16	17	18	19	20	13	14	15	16	17
23	24	25	26	27	21	22	23	24	25	18	19	20	21	22	23	24	25	26	27	20	21	22	23	24
30					28	29	30	31		25	26	27	28	29	30	31				27	28	29	30	31
February					March					April					May					June				
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3	4	5	6	7	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	2	3	4	5	6
10	11	12	13	14	10	11	12	13	14	7	8	9	10	11	5	6	7	8	9	9	10	11	12	13
17	18	19	20	21	17	18	19	20	21	14	15	16	17	18	12	13	14	15	16	16	17	18	19	20
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					31					28	29	30			26	27	28	29	30	30				

*Counted as school day. No pupils.

Calendar No. 2

September					October					November					December					January				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
2	3*	4	5	6			1	2	3	4				1	2	3	4	5	6			1	2	3
9	10	11	12	13	7	8	9	10	11	4	5	6	7	8	9	10	11	12	13	6	7	8	9	10
16	17	18	19	20	14	15	16	17	18	11	12	13	14	15	16	17	18	19	20	13	14	15	16	17
23	24	25	26	27	21	22	23	24	25	18	19	20	21	22	23	24	25	26	27	20	21	22	23	24
30					28	29	30	31		25	26	27	28	29	30	31				27	28	29	30	31
February					March					April					May					June				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
3	4	5	6	7	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	2	3	4	5	6
10	11	12	13	14	10	11	12	13	14	7	8	9	10	11	5	6	7	8	9	9	10	11	12	13
17	18	19	20	21	17	18	19	20	21	14	15	16	17	18	12	13	14	15	16	16	17	18	19	20
24	25	26	27	28	24	25	26	27	28	21	22	23	24	25	19	20	21	22	23	23	24	25	26	27
					31					28	29	30			26	27	28	29	30	30				

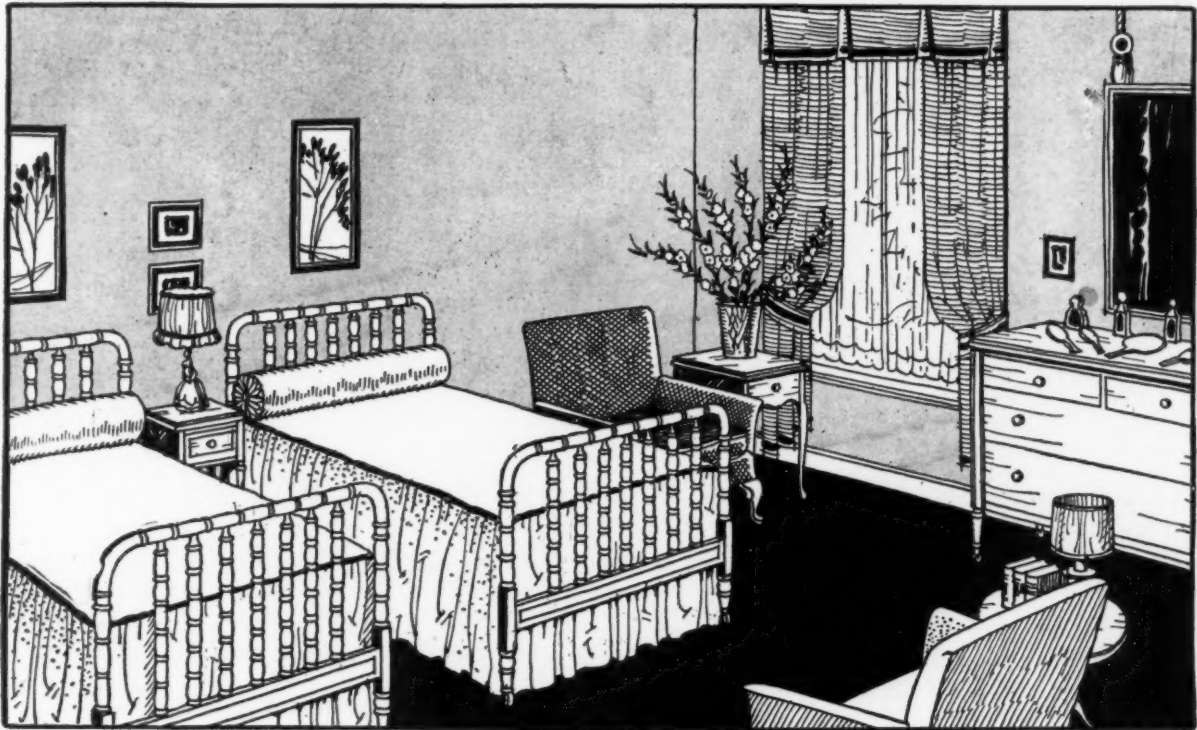
*Counted as school day. No pupils.

Calendar No. 3

September					October					November					December					January				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
2	3*	4	5	6			1	2	3	4				1	2	3	4	5	6			1	2	3
9	10	11	12	13	7	8	9	10	11	4	5	6	7	8	9	10	11	12	13	6	7	8	9	10
16	17	18	19	20	14	15	16	17	18	11	12	13	14	15	16	17	18	19	20	13	14	15	16	17
23	24	25	26	27	21	22	23	24	25	18	19	20	21	22	23	24	25	26	27	20	21	22	23	24
30					28	29	30	31		25	26	27†	28	29	30	31				27	28	29	30	31
February					March					April					May					June				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
3	4	5	6	7	3	4	5	6	7†	1	2	3	4	5	1	2	3	4	5	2	3	4	5	6
10	11	12	13	14	10	11	12	13	14	7	8	9	10	11	5	6	7	8	9	9	10	11	12	13
17	18	19	20	21	17	18	19	20	21	14	15	16	17	18	12	13	14	15	16	16	17	18	19	20
24	25	26	27	28	24	25	26	27	28	21	22	23	24	25	19	20	21	22	23	23	24	25	26	27
					31					28	29	30			26	27	28	29	30	30				

*Counted as school day. No pupils.
†End of first term.
‡End of second term.

Calendar No. 4



Student Happiness pays big dividends

BBETTER work . . . higher scholastic attainment . . . greater school loyalty . . . health . . . Those are some of the things directly traceable to student happiness.

And what is so important in this happiness as the surroundings in which your undergraduates live.

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parison. Simmons furniture of steel is almost indestructible. There is no splitting, warping or breaking . . . and its mar-proof, chip-proof finish is impervious to the ordinary medicines, cosmetics or water glasses. In saving the usual costs of refinishing alone you more than make up the difference in price in a very short time . . . and there's simply no wear-out to this furniture.

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S I M M O N S

BEDS - SPRINGS - MATTRESSES - METAL FURNITURE - [BUILT FOR SLEEP]

September					October					November					December					January						
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F		
2	3*	4	5	6			1	2	3	4					1	2	3	4	5	6				1	2	3
9	10	11	12	13	7	8	9	10	11	4	5	6	7	8	9	10	11	12	13	6	7	8	9	10		
16	17	18	19	20	14	15	16	17	18	11	12	13	14	15	16	17	18	19	20	13	14	15	16	17		
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30					28	29	30	31		25	26	27†	28	29	30	31				27	28	29	30	31		

February					March					April					May					June				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
3	4	5	6	7	3	4	5	6	7		1	2	3	4				1	2	2	3	4	5	6
10	11	12	13	14	10	11	12	13	14	7	8	9	10	11	5	6	7	8	9	9	10	11	12	13
17	18	19	20	21	17	18	19	20	21	14	15	16	17	18	12	13	14	15	16	16	17	18	19	20
24	25	26	27	28‡	24	25	26	27	28	21	22	23	24	25	19	20	21	22	23	23	24	25	26	27
					31					28	29	30			26	27	28	29	30	30				

*Counted as school day. No pupils.
†End of Term I.
‡End of Term II.

Calendar No. 5

have 19 days each. Teaching months end on dates shown in boldface; dates of holidays are italicized. Provision is made for holidays as follows: 2 teaching days for teachers' association meetings in November, 2 teaching days for Thanksgiving, 10 teaching days for Christmas, 5 teaching days for Spring vacation and 2 teaching days for Memorial Day. Attention is called to the fact that if only three teaching days are taken for Spring vacation, the closing date is June 19 instead of June 24.

Calendar No. 2

Schools open September 3, close June 17; two semesters, the first of which is identical with the first semester of calendar No. 1. The second semester has only 90 days, making a total of 185 days in the school year. All months of the second semester have 18 days each. If only three teaching days are taken for Spring vacation, the closing date is June 13.

Calendar No. 3

Schools open September 3, close June 10; two semesters. All months have 18 days each. In addition to holidays shown on preceding calendars, there is a one-day vacation between semesters. With a three-day Spring recess, schools close June 6.

Calendar No. 4

Schools open September 3, close June 10; three terms of 60 days each; 20 days in each month. There are two days' vacation between the first and second terms. With a three-day Spring recess, the closing date is June 6.

Calendar No. 5

Schools open September 3, close June 10; three terms as follows: Term I, 60 days, Term II, 55 days, Term III, 65 days; total 180 days.

Making the Left-handed Child Right-handed

A superintendent in Pennsylvania asks for a discussion of the effect of changing left-handedness in children to right-handedness. Inasmuch as left-handed youngsters appear in all schools this subject seems worthy of consideration here. The following discussion is based on a resumé of the literature in the field, together with the advice of Doctor West of the speech department, University of Wisconsin.

Does the Change Cause Stuttering?

Authorities are disagreed concerning the effect of changing left-handers to right-handers. A common belief exists that such change produces stuttering. Travis, who has done much work in this field, goes so far as to say that 80 per cent of all stuttering is due to the attempt to change left-handers to right-handers. Inasmuch as stuttering apparently is the result of cerebral conflict, thereby producing blocked or inhibited controls, it seems logical that changing the handedness of a person might at least contribute to stuttering. At any rate, since there is a neurological as well as a psychological aspect to stuttering, it would seem best to reduce rather than to increase the possibility of neurological difficulties and therefore to avoid any attempt to change left-handed to right-handed children.

Eminent Authorities Discourage Change

Fletcher, Wallin, Parsons and Robbins, as well as others who have been active in investigating this field, furnish evidence that supports this point of view. Consequently, although available data are not as convincing as they might be, in light of the facts that are available it seems that left-handed children should be left alone and allowed to work out their own problem.

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exactly meets this final step in healthful
school feeding management, for in the dish-
washing machine, or for hand washing, it
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sanitation to table service which safeguards
the health of the school.

Moreover, Wyandotte Sanitary Cleaner
and Cleanser has a use in every department
of school feeding.



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Faults of the General Property Tax as an Exclusive Means of School Support

The following excerpt from a letter written by a superintendent in a city of 8,000 inhabitants furnishes another strong case against the general property tax as an exclusive means of school support.

"In line with our conversation here, I am inclosing a copy of our budget for the ensuing year. You will notice that our expenditures exceed our income by approximately \$20,000. Now our actual situation is that we have on hand in a bank, in escrow, enough money to care for our interest and bond payments for the coming year. This means then that we will come out just about even for 1928-1929, but the question is, 'What about the future?' We are voting the school tax limit (eighteen mills) at the present time with about 40 per cent of the tax payers (total money paid) paying a six mill voluntary tax.

"This is the material that you suggested I send to you for discussion in your column in *The NATION'S SCHOOLS*. Don't use our name, but solve our problem, if you can."

Such a situation might be duplicated in almost any state. It is evident that more money must be available if the present quality of schools is to be maintained. It is likewise plain that such funds can be made available only in the following ways: (1) by increasing the tax rights; (2) by increasing valuations; (3) by utilizing new sources of school support; (4) by tuition, or (5) by private subscription.

Finding New Sources of Support

Inasmuch as education is supposed to be a function of the public and is so supported, tuition and private subscription should be discarded as unsound methods of increasing the school monies in this community. Since the maximum legal school tax is being levied at present, an increased tax rate must likewise be eliminated so far as any immediate relief is concerned. Again, in light of the fact that any new sources of school revenue can be used only after constitutional or statutory action, new sources of support likewise hold no help for the ensuing year.

It is the impression of one who is somewhat familiar with the community under discussion that the present valuation of property by no means equals the sales or true valuation. If this be true, it seems that for the next year the only possible means of increasing school support is by making the assessed valuation the same as the true or sales value. By increasing the valuation of property within the district and keeping the

tax rate up to the maximum, obviously more money will be available.

The suggestion made here is one of expediency rather than of permanence. The state in which the community is located is already utilizing the sales tax for education. Steps should be taken at once to use the severance tax and the income tax for the support of schools. Likewise, a financial program for the adequate support of an expanding system of education should be formulated in terms of the needs of communities over an extended period of time rather than on a hand to mouth basis.

The Physical Education Program in the High-School Curriculum

That schools to-day have a tendency to confuse physical education and athletics is the opinion of A. W. Thompson, state director of interscholastic athletics for Michigan. A program calling itself physical education that upon analysis is found to contain only competitive athletics is really furnishing less than a third of the subject matter it should and is reaching even a smaller proportion of the student body in most cases.

An ample time allotment for physical education in the curriculum would include: (1) instruction in health in such a way as to set up health habits sufficiently strong to be valuable during and in after school life; (2) provision of health service for all pupils through physical examination, daily inspection, parental notification as to defects discovered and follow-up work by school or county nurses and doctors; (3) participation in a rounded program of physical activity working to a normal development from a physical and recreational standpoint, included in which would be a broad program of competitive games graded to the ability of the competitors and stressing personal training in desirable attitudes.

However, for those schools that are devoting a major portion of their time to competitive interschool athletics, Mr. Thompson points out that the value of any athletic program is determined by the actual figures as to the number of pupils reached by the program and the physical and mental effect of that program upon these pupils. In too many cases is the value of the athletic program judged by the number of games won or lost. Rather it should be judged according to the contribution it makes to pupils in the way of health, citizenship, vocational training, ethical character, fundamental processes, worthy use of leisure time and worthy home membership."

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resilient material*

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REINFORCED RUBBER, a
scientifically prepared rubber, tough,
resilient, and impervious.

RUBBER reinforced to resist the wear and scuffle of impetuous feet. Cotton fibre, fine as a spider's web, practically invisible, is kneaded into the rubber compound. These minute filaments reinforce and strengthen the material, retard crystallization, and insure lasting resilience. The surface is smooth but not slippery, sanitary and easily cleaned.

These qualities, which have made Stedman Reinforced Rubber Tile the preferred flooring, are now available for table and desk tops. This material does not chip or dent; stains are easily removed with a damp cloth. Surface is warm and ideal for writing, *and non-glaring to the eyes.*

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*By the
makers
of*

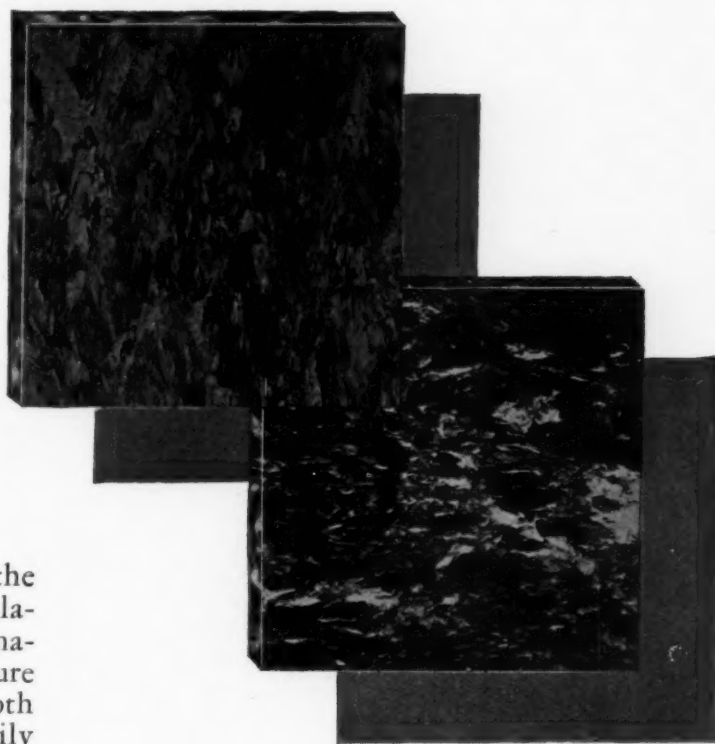
school desks. It comes in standard sizes, and is easily cemented over wood or metal surfaces.

Here is a new saving — old desks made new again. Write for free booklets showing this and other accessories; describing our floor and expert service.

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and Beauty



News of the Month

Allied Organizations Meet With N. E. A. in Cleveland

BESIDES the Department of Superintendence meetings, there were many other interesting sessions held in Cleveland during the week of February 24 to 28.

At the meeting of the department of rural education, William McKinley Robinson, Western State Teachers College, presided. An interesting and instructive paper was presented by Prof. C. C. McCracken, Ohio State University, on "Experimentation in Rural Schools Under University Supervision." The university of the state should extend its service to all agencies within the state, according to Professor McCracken, and this applies particularly in the field of education, since the students coming to the university must be supplied by the schools of elementary and secondary grade. If these boys and girls are not suitably prepared the work within the university must ultimately suffer.

Country Schools Need to Be Improved

A. C. Burton, State Normal School and Teachers College, Bowling Green, Ky., stated that for four generations the county superintendency has been a job, more often than otherwise a political job. He said that the betterment of many of the conditions in the country schools is the most important need of the biggest business in the world. To hold the office, he said, one should be sufficiently educated in general and trained for the work to challenge the respect and confidence of every teacher and patron. "Like the teachers who work for him the superintendent must be willing to stand or fall by the amount of measurable progress he can make," Professor Burton stated.

Kate V. Wofford, county superintendent of schools, Laurens, S. C., stated that the county superintendent of schools of 1929 faces a vastly different world from the one faced by a rural leader fifty years ago. "To-day the superintendent must have expert advice in the multiplicity of problems facing him," she said. "The rural survey furnishes this advice," Miss Wofford said,

"and for the last twenty years the rural schools of America have been undergoing tremendous changes. Consolidation of effort in education has become important and is much more significant than consolidations in other fields."

Etta O. Christensen, director of rural education, State Teachers College, Winona, Minn., declared that one year is too short a time to make the necessary preparation for teaching in rural schools. Two years, according to Miss Christensen, should be the minimum period for this hardest of all teaching jobs.

At the Hotel Winton, the department of secondary-school principals opened their meeting on Monday afternoon and continued through until Thursday morning.

J. Stevens Kadesch, head master, Medford High School, Medford, Mass., presided.

Jesse H. Newlon, professor of education and director, Lincoln School, Teachers College, Columbia University, stated at this meeting that supervision is due for an overhauling, and that under the present system it is suffering from three great handicaps: a widespread use of close supervision; the confusion as to the need, functions and methods of supervision and an undue emphasis on the learning of subject matter to the exclusion of other values. In the opinion of Doctor Newlon, the organization of supervision by subjects is inherently a bad practice because it makes difficult changes in curriculum and method.

Curriculum Revision Needed

Henry Harap, associate professor of education, Western Reserve University, stated that the high school is lagging behind in curriculum revision, and that if the revision is carried out with the fearlessness and honesty that characterized the elementary movement, we should expect an astounding change in the character of secondary education.

J. B. Edmonson, University of Michigan, stated that year after year the universities have

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1

Higher standards of cleanliness. The central system is the only method which removes all dirt and dust from the room.

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parts are located in the basement and designed for long life service without repairs.

2

Saves Decorations. Because there is no dust, the need for frequent washing of walls, furniture, etc., is not necessary. This saves on painting and redecorating costs.

3

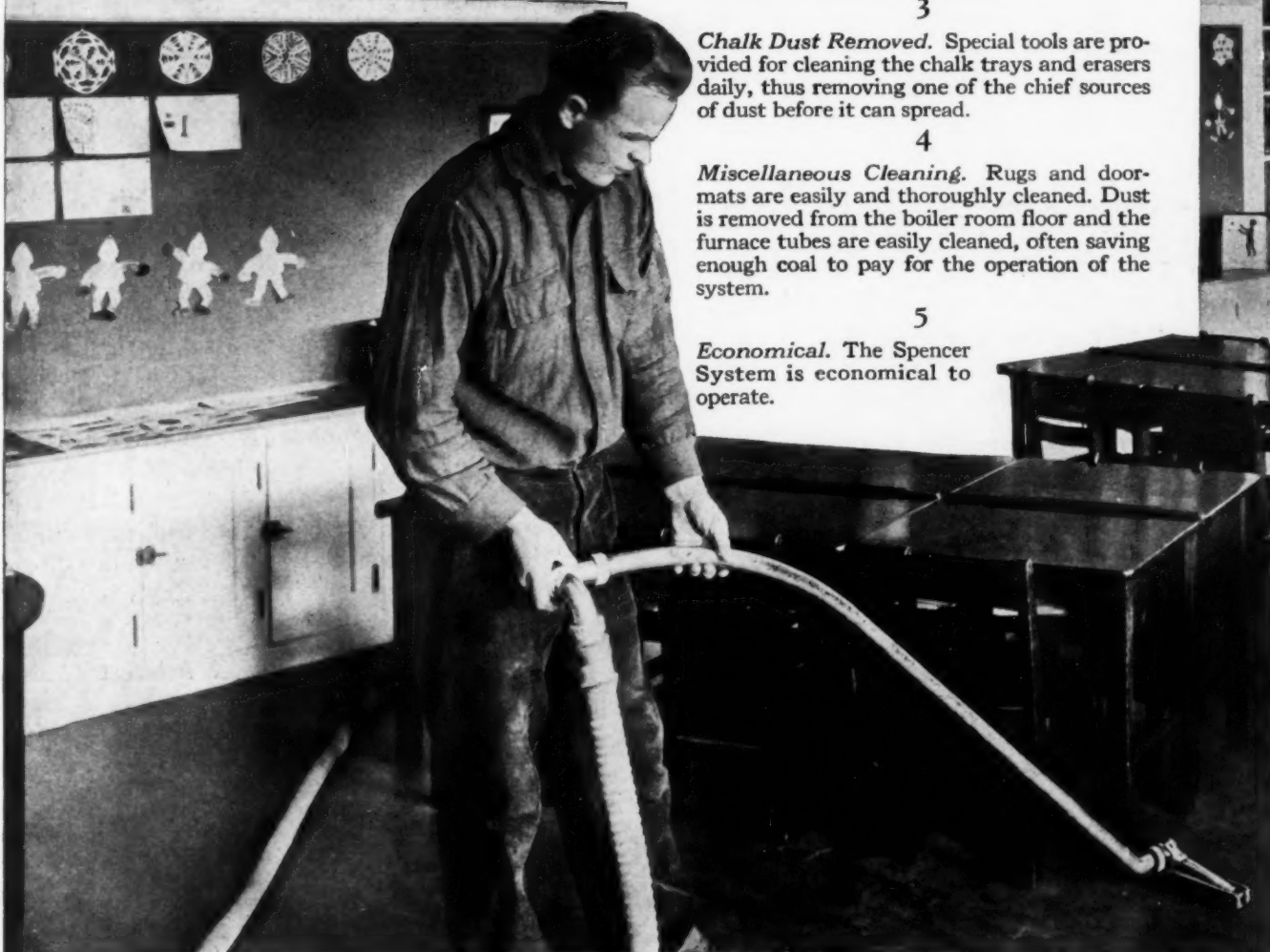
Chalk Dust Removed. Special tools are provided for cleaning the chalk trays and erasers daily, thus removing one of the chief sources of dust before it can spread.

4

Miscellaneous Cleaning. Rugs and doormats are easily and thoroughly cleaned. Dust is removed from the boiler room floor and the furnace tubes are easily cleaned, often saving enough coal to pay for the operation of the system.

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Economical. The Spencer System is economical to operate.



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3305 A

News of the Month

reported that freshmen complain particularly of the lack of specific training in matters of study. He stated that in Michigan they were urging that every high school adopt some sort of definite plan of study. "In view of the helpful material now available in books and bulletins, there is little excuse for a school's failing to work out a plan for training pupils in habits of study," he said.

Harold A. Ferguson, principal, Montclair High School, Montclair, N. J., claims that educational guidance as a definite school policy has come as a result of the increased and complex secondary-school enrollment. "The time has come," he said, "when schools must not only prevent repeated failure of pupils, but must also give adequate and timely warning to homes if there is doubt about the attainment of stated objectives."

Bertram C. Richardson, head master, East Boston High School, says that in Boston the supervision of instruction in senior high schools is a cooperative enterprise in which both the supervisor and the teachers share the responsibility for improved instruction.

Business Education Discussed

"A New Conception of Commercial Education" was the subject of a talk given by Paul S. Lomax, professor of commercial education, New York University. Professor Lomax stated that to confine students of business education only to the acquirement of a knowledge and a skillful use of the various techniques is not enough. The students should be taught to understand and appreciate the advantages and limitations of these techniques in the great civilization building task that the social institution of business should play in its varied, complex and primary relationships with the other social institutions.

Patrick T. Campbell, head master, Public Latin School, Boston, delivered the report of the committee on the observance of the three hundredth anniversary of American secondary education. The committee recommended that a permanent committee be appointed by the president of this association to formulate plans for a fitting observance of this anniversary that will occur in 1930.

H. H. Ryan, associate professor of secondary education, University of Michigan, declared that the school must provide for a close personal study of all the individual children. He said we are now in an age in which humanity will permit a

child to be a child. If all of us are ready to keep in mind the difference between a high standard and a narrow standard, then the omens are all favorable to a consideration of individual differences as a factor in schooling.

E. H. Fishback, principal, Junior High School, Anderson, Ind., said that it takes boys and girls at the beginning of their age of dreaming and planning for the future and by means of elective offerings, helps them to realize the satisfaction that comes from the release of energy in the solution of those problems in life that make a personal appeal.

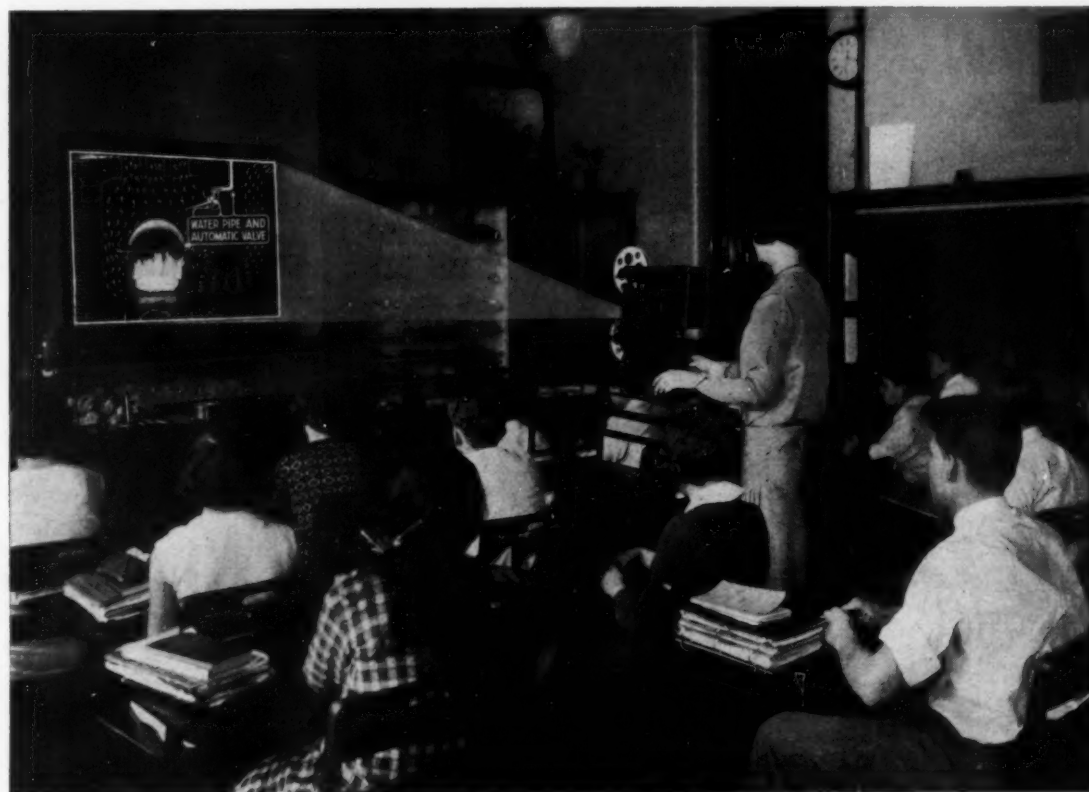
George E. Myers, professor of vocational education and guidance, University of Michigan, asserted that the junior high school is responsible for developing in its pupils a respect for all vocations and an appreciation of the importance of them all to human welfare and progress.

Francis T. Spaulding, assistant professor of education, Harvard University, stated that the consideration of the senior high school's needs leads to the conclusion that the junior high school cannot fairly seek complete freedom from restriction, and that the senior high school may justly demand that the junior high school fulfill in measurable terms its own agreed-upon functions, with respect especially to training in fundamental operations, survey and try-out and guidance toward further work.

Vocational Education Arouses Interest

The department of vocational education opened its meeting on Monday and continued throughout Wednesday. A welcome to Cleveland was given by Howard C. Briggs, director, vocational and practical arts, Cleveland Art Schools. He stated that in the Cleveland Trade School there are more than 1,000 apprentices enrolled and that due to the cooperation of the chamber of commerce, the various trade unions, the automobile manufacturers' and dealers' associations and other associations, the school had come into being. He cordially invited those present to visit any of the Cleveland schools.

James Killius, director of vocational education, Johnstown, Pa., stated that a good manual arts program rests upon more significant educational fundamental operations, survey and try-out and experience necessary for further training in specific occupations. He said that the most noticeable change in manual arts in this decade has



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But now there is a NEW teaching aid
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News of the Month

been the widening scope and the natural development by individual projects.

D. W. Castle, director of vocational education, Joliet, Ill., said that a part-time department offers an opportunity to the fourteen to sixteen-year group of employed boys and girls to continue their education.

George Gregory, supervisor of industrial education, Duluth, Minn., said, "The chief aim of our junior high schools is educational and vocational guidance through try-out courses. In the senior high school three aims are kept in mind: first, general education; second, to give such training as will help boys prepare for trade entrance; third, preparation for college.

An interesting program was given under the direction of Arthur B. Mochlman, University of Michigan, by the American Education Research Association. Several sessions were held but much of the meeting was given over to discussion of pertinent subjects. J. R. McGaughy, Teachers College, Columbia University, stated that the major obstacle of scientific schedule making is now found in the state laws that make equal pay for men and women mandatory. He went on to say that we will not achieve salary schedules that are economically and scientifically sound until we learn to conduct salary campaigns on some basis other than demanding special privileges for our profession.

Harl R. Douglass, professor of education, University of Oregon, Eugene, said that the universities have always furnished the leadership for the development of scientific methods of thinking and investigation in education as well as in physics, astronomy, mathematics, economics and all branches of science, but they have been slow to apply such methods to problems of how instruction in universities may be most effectively and economically carried on.

Extensive Building Program at Princeton

Progress is being made toward the construction of five new buildings on the campus of Princeton University, representing an estimated total expense of \$3,100,000. The starting of work on the McCarter Theater recently has brought the number of buildings in the process of construction to three, while two others are being designed for future construction.

Work on the theater was made possible largely through a gift of \$250,000 from Thomas N. McCarter, Newark,

N. J., an alumnus. The Triangle Club of the university and a number of other subscribers contributed the balance of the amount necessary for this building.

Another building, which is nearing completion, is the \$1,500,000 chemistry building. Classes have already been held there, but official dedication of the structure will not take place until Spring. The other building under construction is the Joline-1903 dormitory. Work here has just started. The building when completed will house 164 students.

The two buildings for which plans are now being made are the Fine Memorial Mathematics Hall, to cost about \$400,000 and a \$300,000 addition to McCosh Hall.

U. S. Commissioner Cooper Speaks at North Central Ass'n Conference

The thirty-fourth annual meeting of the North Central Association of Colleges and Secondary Schools was held in the Stevens Hotel, Chicago, March 12 to 15. There was an attendance of between 500 and 600 educators interested in colleges and secondary schools.

The constitution of the association provides for three standing committees called commissions, as follows: commission on institutions of higher education, commission on secondary schools and commission on unit courses and curricula. The first two days of the meeting were devoted entirely to meetings of these commissions and the open sessions of the convention were held March 14 and 15, when the presiding officer at all sessions was Principal W. I. Early, Washington High School, Sioux Falls, S. D., the president of the association.

The program on Thursday afternoon was in charge of the commission on unit courses and curricula, the chairman of which is Thomas M. Deam, assistant superintendent, Joliet Township High School and Junior College, Joliet, Ill. The first paper was given by Milo H. Stuart, Arsenal Technical High School, Indianapolis, who outlined six plans for encouraging and recognizing exceptional teachers. Mr. Stuart put forward the suggestion that the commission might be authorized to organize an auxiliary commission to study the work of exceptional teachers and take steps to develop in the association some means of encouraging and recognizing them.

The second paper was given by Principal Will French, Lincoln, Neb., whose subject was "What Place Shall Observation of Teaching and Participation in Teaching Have in the Training of High-School Teachers?" Following Principal French, Prof. L. W. Webb, Northwestern University, Chicago, presented the committee's report on qualitative and quantitative standards for use in the reorganization of secondary-school curricula. The concluding paper was by Dean John E. Stout, Northwestern University, Chicago, who spoke on "The Point of View in the Development and Interpretation of Standards for Use in the Reorganization of Secondary-School Curricula."

A business meeting concluded the session, when the reports of the executive committee and of the treasurer were presented and appointments to committees were made.



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News of the Month

In the evening the banquet was held in the North Ball Room and addresses were given by Principal Early and Dr. Frederick P. Keppel, president of the Carnegie Corporation, New York City. Following the banquet a meeting of the executive committee was held.

Friday morning's program was in charge of the commission on institutions of higher education. The report of this committee was given by George F. Zook, University of Akron, Akron, Ohio, and this was followed by an address by George Norlin, University of Colorado, Boulder.

On Friday afternoon the main feature of interest was an address by Dr. William J. Cooper, Washington, D. C., who was recently appointed United States Commissioner of Education. Doctor Cooper called attention to the amazing popularization of high schools and colleges that has come about in the past decade, as evidenced by the rapidly increasing number of pupils in high schools and colleges. Remarkable agreement, he said, is noted between the views of college professors and high-school administrators on educational issues. Speaking on the problem of articulation, Doctor Cooper said that efforts are being made to meet new demands arising out of changed conditions of life and called attention to the tendency to raise standards. Much experimentation is going on in secondary schools, he said, and different methods of teaching are being tried as well as new forms of extra-curricular activities. There is growing dissatisfaction with standardized requirements and efforts should be made to encourage forward movements. In conclusion Doctor Cooper emphasized the need to train children for citizenship and the proper use of leisure.

Other speakers at the Friday afternoon session were: Prof. C. C. Brown, University of Colorado; E. L. Miller, Detroit; Principal W. E. McVey, Harvey High School and Junior College, Harvey, Ill., and Dr. Charles H. Judd, University of Chicago.

School for Handicapped Children Is Given to Des Moines

The D. W. Smouse Opportunity School, especially designed and equipped for crippled children and those otherwise handicapped, is to be built at Des Moines, Iowa, within the next year, as the result of the generosity of Dr. and Mrs. D. W. Smouse, Los Angeles, Calif. Doctor and Mrs. Smouse, residents of Des Moines for thirty-seven years, have provided \$250,000 for the new school, which will accommodate 300 pupils. Construction will start July 15.

The structure will be finished in face brick with white stone trim. It will be two stories high with a department on the roof for open air classrooms and sun baths. One of the special features will be the installation of stairways, ramps and an elevator.

On the first floor will be a sight saving classroom, a sewing room, a cooking room, a lunch room and kitchen, two workshops for manual training, three classrooms for crippled children, a hydrotherapeutic tank, a massage room and an administration unit which will include prin-

cipal's office, waiting room, doctors' examination room and nurses' quarters. The second floor will provide space for two classrooms for the hard of hearing, one for speech defectives, one sight conservation room, one art room, one commercial education room and the combined gymnasium and auditorium, with lockers and showers.

J. W. Studebaker is the director of the educational system of Des Moines of which the new school will be a part.

Secondary Education Board Holds Its Annual Conference

The annual conference of the Secondary Education Board was held at the Hill School, Pottstown, Pa., February 7, at which the activities of the board were discussed, accomplishments of the year since the last annual meeting were reviewed and a program was outlined for the coming year. The affairs of the board are under the immediate direction of its executive committee of which Dean F. J. V. Hancox, Lawrenceville School, Lawrenceville, N. J., is chairman. The office of the board is temporarily at Milton Academy, Milton, Mass., under the direction of O. F. Shepard, executive secretary.

The Secondary Education Board is an organization of independent schools and is national in scope, Mr. Shepard points out. Its membership of 107 schools includes several in the Far West, others in the Middle West, the South, Central and New England states. Boys' schools, girls' schools and coeducational schools of both the boarding and country day type are included. The wide membership is a fortunate circumstance in helping to bring about closer affiliations of educational interests and a greater understanding of sectional problems. The board makes every effort to keep its member schools informed of all progressive movements within other member schools, and to conduct such services, inquiries and researches as its membership may request.

The present work of the board falls into three divisions: examinations, information and research.

The examination program was formulated to untangle the difficulties experienced by the elementary schools in preparing their pupils to meet the varying entrance requirements and examinations for admission to the secondary schools. The result of this effort was the establishment of a board, representative of both kinds of schools, which should set up minimum requirements for admission to the secondary schools and which should also provide examinations upon these requirements. The examinations in each subject were to be formulated by a committee of teachers from both the elementary and secondary schools. This plan has worked with unqualified success. The examinations cover the ground in English, Latin, French and mathematics up to the point where the examinations of the college entrance examination board begin.

The information service is handled by a bureau of information. This bureau, in response to requests from schools and individuals, has accumulated considerable information upon various problems and from time to time has issued to the member schools mimeographed reports or reprints from their report in the magazine,

Armstrong's Floors Graded "A" in College Tests



So new \$2,000,000 St. Mary's College installs 16,500 square yards of Armstrong's Linoleum

"STUDENTS are given tests to determine their fitness. Why not select modern floors for our new college buildings in the same way?" The logic of this appealed to the Purchasing Board, responsible for the buildings of the new \$2,000,000 St. Mary's College at Moraga, California. And it met with the entire approval of John J. Donovan, architect.

So various brands of linoleum floors, including Armstrong's Linoleum, were grilled in strenuous laboratory tests. Not sanitation alone—not maintenance alone—nor comfort—quietness—durability—appearance—but every single quality essential in floors for schools and colleges was considered.

Perhaps that's why Armstrong's Linoleum Floors ranked first!

Now, as you walk through beautiful St. Mary's College, you find Armstrong Floors in all of its buildings. Handmade Marble Inlaid designs—Embossed Tile effects—various colors in Jaspé Linoleum



(Above) This Armstrong's Handmade Marble Inlaid, Design No. 80, gives quietness and color to the students' lounge room. This striking pattern in black, brown, and cream marble has a 36-inch repeat. It is an unusually effective floor for large areas.

(Left) Here Armstrong's Linoleum assures warmth, foot-comfort, and permanence: another St. Mary's dining-room. Inset Jaspé No. J-14.

(Below) It's easy to keep this floor, a brown and cream marbled Armstrong's Linoleum, clean and bright in the students' dining-room, at St. Mary's.



—Brown Battleship Linoleum. In the students' lounge room—the chapel—the private dining-rooms—the students' dining-room—the fountain room—and elsewhere.

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Permanent, too. Sanitary. Spot-proof and stain-proof. Easy to clean.

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News of the Month

Independent Education. Also, in the cases of individual schools, it has undertaken to collect special information requested by the schools, compiled the results and has sent back to the schools special reports.

The research service, an important phase of the board's activities, is at present undertaking a fundamental study of the secondary-school curriculum as it exists in the independent schools, with the purpose of suggesting changes that will meet many of the common problems. The guiding idea is first to set up the ideal principles that a curriculum should subserve and then, working from present conditions, to revamp the curriculum as far towards the ideal as practical considerations make expedient.

There is the problem of guiding the superior student into fields of study which will constantly challenge his interest and ability; of providing him with material that will contribute to his education, primarily, rather than keeping him tied to the slower pupils who must be drilled exclusively for college examinations. There is the obverse problem of guiding the academically inferior, but mayhap worth while pupil, into fields of study more suitable to him than the college preparatory work he may have at first set out to do. The introduction of music and art as subjects suitable for admission to the best colleges, in the cases of pupils so gifted, is being given earnest study. The making of science and history truly continuous, unified fields of study instead of the piecemeal offerings so generally found, is engaging the attention of capable committees.

Schools that enter the board are not under obligation to accept or participate in any particular activity of the board. At their pleasure they make use of the examination program for admission or promotion purposes, take part in or contribute to the information or research functions or they may merely lend the encouragement of their support. For the most part the board is loyally supported by its member schools.

New Book Makes Arithmetic Study Both Practical and Fascinating

Among the recent textbooks of more than passing notice are the Modern Life Arithmetics published by the Macmillan Company. The arithmetics are published in a three-book edition and in a six-book edition, Book One of the three-book edition being for use in the third and fourth grades, Book Two for the fifth and sixth grades, and Book Three for the seventh and eighth grades.

The authors of this new series, Dr. John Guy Fowlkes, professor of education, University of Wisconsin, Madison, and Thomas Theodore Goff, professor of mathematics, State Teachers College, Whitewater, Wis., have made practical application of the principles contained in the book and have made it of greater interest to the pupils than the ordinary arithmetic textbook. All of the books are well illustrated. Colored pictures are used in several instances.

Some of the outstanding features of the series are special vocabulary drills, the high degree of socialization of the material, a self-diagnostic and also self-teaching series

of chapter and semester reviews, generous use of new testing procedure and the development of new material around applied life situations instead of abstract hypotheses. In the upper grades, the problems of transportation and communication along with taxes and investments are presented through situations that appear in life. The books are complete and should make the subject of arithmetic a fascinating and valuable study for children.

Offer Course in Cinematography at California University

Through the efforts of the Academy of Motion Picture Arts and Sciences, Hollywood, Calif., a course in cinematography has been included in the curriculum of the University of Southern California. The course includes the study of the photoplay as an art form and as a social institution, and the object of the course is to develop it as such, according to an article in a recent issue of *School and Society*.

Among the specific topics to be covered in the course are the study of the early history of the photoplay, the scientific foundation, its growth and development, the silent photoplay, the modern photoplay with sound and voice, the story, the actor's art, pictorial beauty, principles of criticism, social utility of the photoplay, its relation to the esthetic culture of the world and the future of the photoplay.

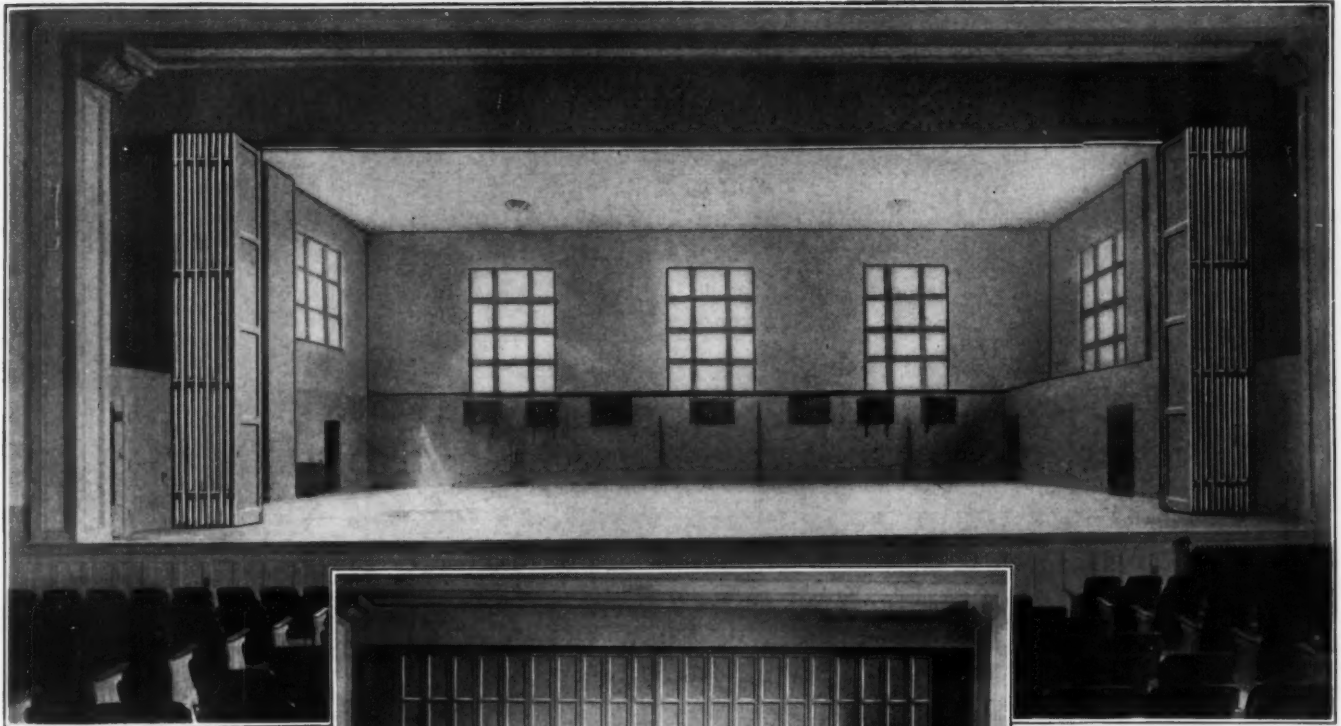
The work of the students will include observation and comment on current photoplays, and lectures will be delivered by means of sound-reproducing machines. The degree of Bachelor of Science in Cinematography will be conferred upon students completing the course.

Interest in Recreation Grows in an Increasing Number of States

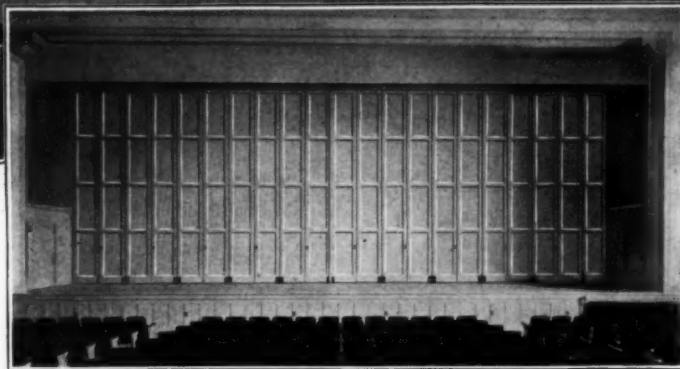
Thirty-five states, representing 90 per cent of the population, now have physical and health education legislation and twenty states representing 60 per cent of the population have laws, manuals and state directors of physical education, according to the annual report of the Playground and Recreation Association of America.

Adults throughout the United States are giving an increased amount of their spare time to dramatics, says the report. One thousand requests for advice and aid in this field were received by the association in November alone. As one illustration of the rural interest in and talent for acting, the report cites the success of a group of mail carriers, housewives, store keepers and teachers of Redfield Grange, Oswego County, N. Y., who won first place for their presentation of the play, "Day by Day," by Paul Green, in a state contest at Cornell University. To serve the demand for training in games and music in rural districts, the association conducted institutes for 3,596 farm men and women, country ministers, teachers and home demonstration agents in twenty-one states last year.

Nearly 15,000 contributors in 982 communities made possible the nationwide service of the association.



21 doors, each 3 x 20 feet, separate this 63 foot opening between auditorium and stage-gymnasium in the Roosevelt School, Topeka, Kansas.



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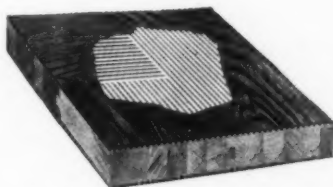
for all types of partition door installations. No matter how high or wide the opening may be, standardize on R-W equipment and be sure of continuous trouble-free performance.

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In the Educational Field

CLYDE WILLIS is the newly appointed superintendent of the consolidated schools at Novinger, Mo., succeeding C. L. GARRISON, resigned.

A. W. MYERS, principal, Camden High School, Camden, N. Y., has resigned his position there in order to accept the principalship of a Buffalo high school.

EDWARD HUNTINGTON DUTCHER, principal, East Orange High School, East Orange, N. J., succumbed to an attack of heart disease. He had served the East Orange High School for thirty-eight years.

DR. J. L. MEADER has been installed as president of Russell Sage College, Troy, N. Y., succeeding ELIZA KELLAS, the first president of the college.

WILLIAM C. GRAHAM, principal, Wilkinsburg High School, Wilkinsburg, Pa., has been elected to succeed the late WILLIAM H. MARTIN as superintendent of the Wilkinsburg schools.

F. H. BARBEE, formerly assistant superintendent of schools, St. Joseph, Mo., has been elected superintendent, to succeed DAVID W. HOPKINS, who has been elected to Congress from the fourth district.

DR. FREDERICK C. HICKS, president University of Cincinnati, Cincinnati, Ohio, has retired after a period of nine years in that office.

JULIUS J. BLISS, superintendent of schools, Bucyrus, Ohio, for the last twelve years, died at his home on February 4.

JAMES G. WILKINSON, whose death is announced, was principal of the Roosevelt School, New Rochelle, N. Y.

J. NELSON MOWLS, formerly principal, Bellevue High School, Bellevue, Pa., has been appointed superintendent of schools there, to succeed J. FREEMAN GUY, who has accepted the appointment as associate superintendent in Pittsburgh. EDWIN N. SCHENKEL has been appointed to the high-school principalship.

J. B. MONLUX has been appointed superintendent of all California Harbor district schools, succeeding VIERLING KERSEY, now state superintendent of schools in California.

RAY W. SMITH, supervising principal of the schools in Clinton, N. Y., has resigned to accept a position in another field of work.

D. A. MCNEILL resigned his position as superintendent of schools, Talladega County, Ala., to accept the superintendency of the state schools for the deaf and dumb. E. A. MCBRIDE, principal, Talladega High School, has succeeded to the county appointment.

THE REVEREND HOWARD ALLEN BRIDGMAN, headmaster, Bridgman School, Shirley, Mass., died on March 13. MR. BRIDGMAN was sixty-eight years old. He was for many years editor of the *Congregationalist*.

GENERAL WILLIAM H. COCKE has resigned as superintendent of the Virginia Military Institute, Lexington, because of ill health.

H. L. COMER, formerly school superintendent at Ocheyedan, Ia., has accepted a government appointment in the Philippine Islands, where he will have charge of agricultural instruction in thirty schools throughout the provinces.

ISAAC O. WINSLOW, for fifteen years superintendent of schools at Providence, R. I., has been named superintendent emeritus. He will remain in charge of the schools until his successor is chosen.

JOHN M. KERWIN, principal of Public School No. 32, Jersey City, N. J., has received the appointment as principal of the Henry Snyder Junior High School there. He succeeds the late DR. JAMES T. MACKEY.

CARL V. WARREN, principal of the Geneseo High School, Geneseo, N. Y., has been appointed superintendent of schools at Skaneateles, N. Y. The appointment becomes effective next September. His successor at Geneseo will be FRANK O'DONNELL, now a teacher in the Stockton High School, Stockton, N. Y.

HENRY SHAFFER has been chosen to succeed HOMER R. FEWELL as supervising principal of the schools at Manteca, Calif. MR. FEWELL has held that office for the last eight years.

DR. WILLIAM A. MILLIS, president, Hanover College, Hanover, Ind., for the last twenty-one years, has resigned his office and will take up residence in Crawfordsville where he was once superintendent of schools.

BOWMAN F. STOCKWELL has been appointed to the presidency of Union Theological Seminary, Buenos Ayres. MR. STOCKWELL graduated from Boston University in 1925.

WILLIAM R. WARD has been selected to succeed ARTHUR J. PRICE as president of Port Arthur College, Port Arthur, Tex.

MAJOR GENERAL JOHN A. LEJEUNE, former commandant, United States Marine Corps, has accepted the appointment as superintendent of the Virginia Military Institute, Lexington, Va., to be effective July 1.

FRED E. SMITH has been named to head the schools of Windsor, Conn. MR. SMITH was deputy state superintendent of South Dakota prior to his acceptance of the superintendency of the Windsor schools.

DR. WALTER P. STEINHAEUSER, president of the Le Master Institute, a junior college in Asbury Park, N. J., at a recent meeting of the board of trustees was re-elected for another term of five years.

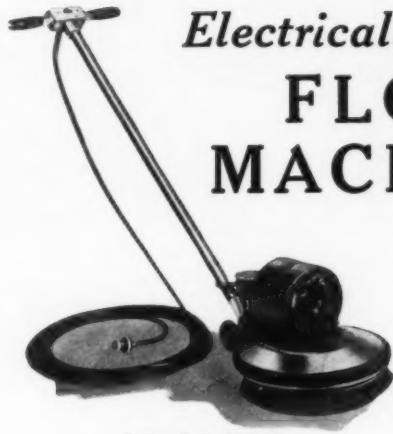
B. F. WHITE has received the appointment as superintendent of schools at Lyons, Kan., to succeed C. A. YEOMANS, resigned.

W. S. BRENT has been elected superintendent of schools in Lancaster and Northumberland counties, Virginia, in which office he has been serving as temporary appointee since the death of DR. F. W. LEWIS, superintendent.

HERMAN RICHTER has resigned as principal of the high school at Bridgewater, Mass., and LESTER LANE has been appointed to succeed him in that office.

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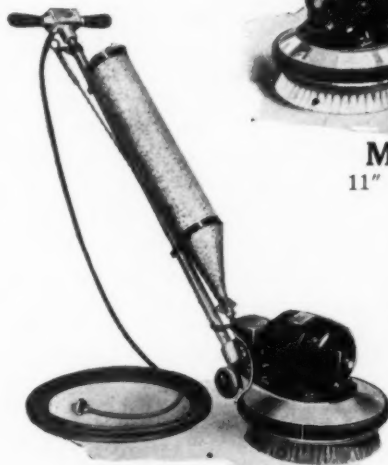
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News of the Month

Championship Contests Abolished in New York State

All state athletic championship tournaments have been abolished by action of the central committee of the New York State Public High-School Athletic Association, which determines and administers eligibility rules and has conducted state athletic tournaments.

The decision of the committee to abolish state championships is in recognition of the facts that emphasis has shifted from training the few for athletic championships to educating all for more effective lives, that championships tend to concentrate the activities and attention of both pupils and school authorities on the few who least need such an education, that they tend to introduce other unfortunate results and that the best reason for championships has now passed. It was pointed out that the ideals that championship tournaments were intended to promote are now almost universally understood and because a comprehensive physical education program is being planned which will do for all the pupils in each school what the tournaments had attempted to do for the few.

There is now being prepared a new organization, dividing the state into eight districts and providing for more local autonomy than heretofore and for pupil participation in all phases of school athletics. Copies of the proposed organization have been sent to all high-school principals for their advice as to future action.

To Move Toledo University to a New Site

The business of moving a college has been found to be a difficult task at Toledo, Ohio, where arrangements are being made to move Toledo University to a site apart from its old location. According to the *Ohio Teacher*, voters of Toledo last November authorized the issuing of \$2,850,000 worth of bonds for the new university to take the place of the old one which was overcrowded. There was no possibility of expansion on the old site, so a new location was found and work will start on the new buildings in the near future. The old site will be retained by the city as a park and golf course.

Public Speaking Department Endowed by Mrs. Depew

A department of public speaking has been endowed at George Washington University by Mrs. Chauncey M. Depew, who has given an income of \$120,000, which is to be provided in perpetuity. The department will include courses especially designed for members of Congress, attachés of the Department of State, and other government officials, in memory of her noted husband.

An article in the *Journal of Education* explains that the department is to be developed in connection with the new school of government established at the university last

Fall under the terms of a \$1,000,000 endowment given by the Supreme Council of the Scottish Rite of the Southern Jurisdiction. The gift donated by Mrs. Depew will amount to about \$6,000 per year.

Mexican Government Appropriates Funds for School Books

The Department of Public Education of Mexico has appropriated funds amounting to about \$75,000 to be used in the purchase of books for rural and primary schools throughout the republic this year. In addition to this, \$5,000 has been set aside for the purchase of other school materials. This action was the result of recent investigations which revealed that in some parts of the country as many as four or five pupils were studying from one book.

Work Started on Advanced Industrial Schools at Dearborn

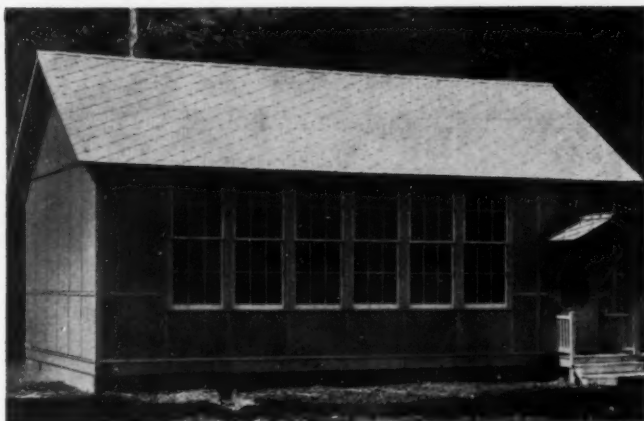
Thomas A. Edison Institute of Technology is the name chosen for the new industrial school for advanced work being constructed as a part of the Ford Museum, Dearborn, Mich., according to an announcement in the *Journal of Education*. The buildings, it is expected, will be completed within two years. This will be an addition to the Ford trade schools at Highland Park and Fordson. Of the seventeen buildings in the new group, five of them are to be devoted to home industries, agriculture, manufacturing industries and transportation.

New Units Planned at Notre Dame University

The first step in the expansion program at Notre Dame University, which will be the construction of a new \$350,000 law school, is being planned jointly by officials of the university and the lay board. Other units for which plans are being drawn include a new stadium, a commerce building and an engineering building. An offer to pay for the commerce building has been received from a prominent Chicagoan, but announcement of the cost of the building and the donor's name has not been made.

Germany Extends Exchange Courtesy to American Students

The student exchange arrangement, which has been granted by Germany to students from England and France, has been extended by the German Students' Association and the German Academic Institute for Study Trips in Berlin to American students visiting in Germany. This arrangement provides free room and board to the visiting students during their stay in Germany.



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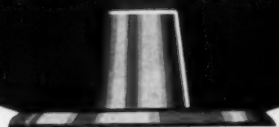
The instructor, for example, may proceed at a speed which best suits the subject which he is discussing. He may dwell on any particular illustration as long as he sees fit.

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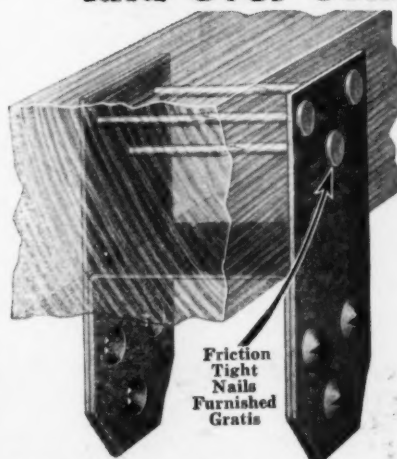
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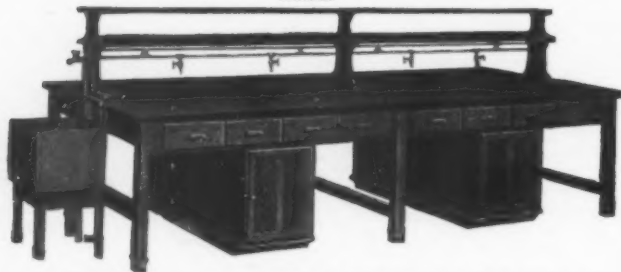
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750 ROOMS **HOTEL** EVERY ROOM WITH BATH

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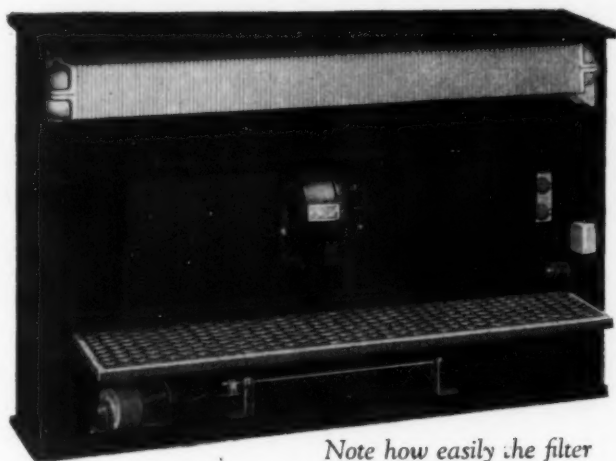
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Announcing the New "900" Series

BUCKEYE Heatavent



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Aisle projection has been reduced to nine and one-half inches. The unit is only thirty-four inches high which allows installation under practically all windows without obstructing the light. (See the cross section view on following page)

This unit has the capacity to perform its full heating duty, in severe sub-zero weather, and yet not overheat in mild weather.

It is equipped with the Buckeye Sectional Copper Tube Radiator, which is not harmed by repeated freezing.

In conjunction with any approved standard temperature control system, the 900 Series Unit cannot freeze. A stat located in the Unit acting independently of the room thermostat protects the radiator against freezing by allowing the necessary amount of steam into the radiator intermittently, at intervals determined by the outlet temperature of the unit itself, even though the room is up to the desired temperature and the room thermostat therefore, having closed the steam supply valves.

Even though the steam supply should for any reason fail and the radiator freeze, you have the assurance that freezing does not harm the Buckeye Sectional Copper Tube Radiator.

*Your's
on
request*

Bulletin 124

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& Factory

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BULLETIN 124**

Describing the "900" Series Unit

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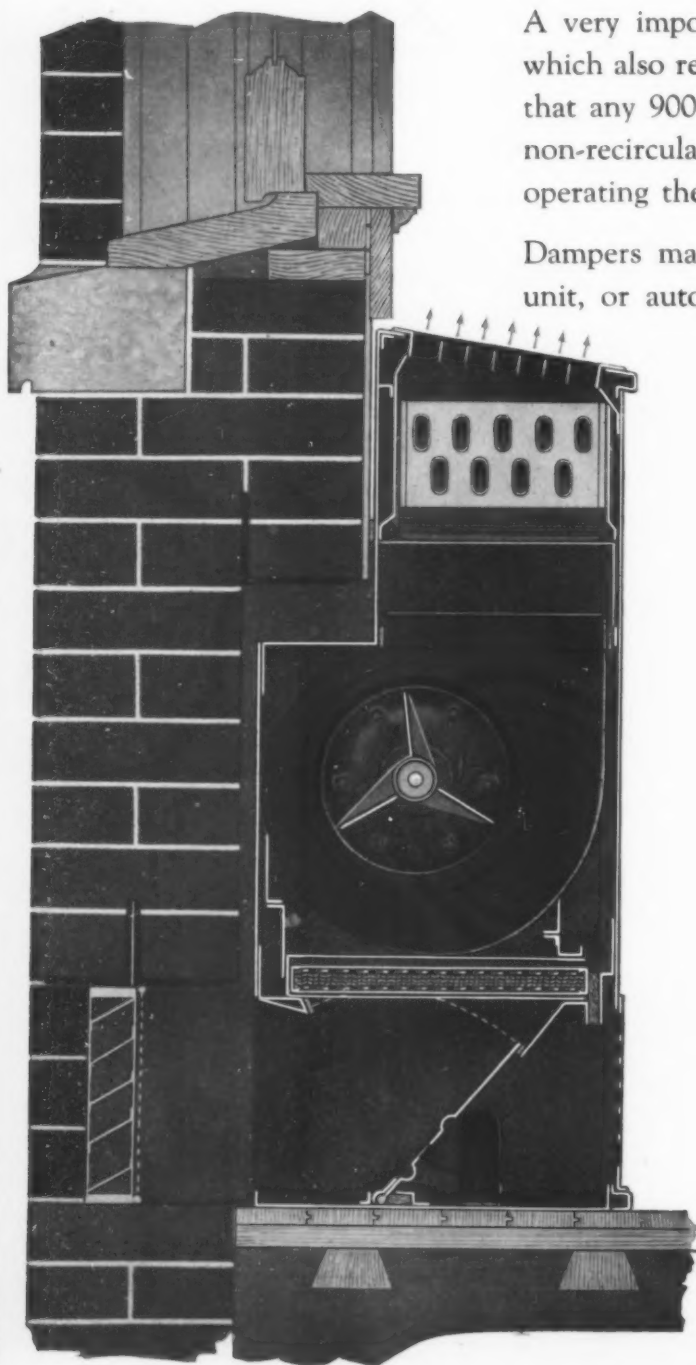




The "900" Series Buckeye Heatavent

This cross section view gives a clear idea of the simplicity of design and sturdiness of construction of the 900 Series Unit which is the result of many years experience in designing and building heating and ventilating units for school rooms, offices, churches, laboratories and banking rooms.

While its handsome appearance and the accessibility to all parts are features to be considered, its real pre-eminence rests upon its outstandingly superior performance under severe conditions.



A very important feature, one which is very convenient and which also results in a very appreciable saving in fuel is the fact that any 900 Series Buckeye Heatavent can be changed from a non-recirculating to a recirculating unit and vice-versa by merely operating the combination intake and recirculation damper.

Dampers may be arranged to operate either manually at each unit, or automatically by any standard automatic temperature control system from remote control point.

Air Delivery: 600 to 1500 cu. feet per minute.

Height: Only 34 inches ---- which permits installation under practically any window without cutting off light.

Depth: Only 9½ inches when recessed -- less aisle projection than the average 3 column iron radiator.

Width: 26 to 60 inches, varying with capacity.

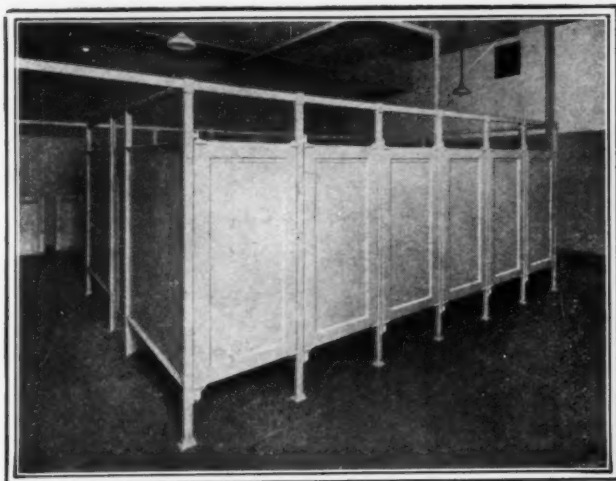
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SCHOOL architects, builders, and school boards everywhere know and appreciate the great amount of abuse toilet and dressing compartments in schools receive. School children are not only careless with such equipment—often they are wilfully destructive. Quite naturally the door bears the brunt of this kicking, pushing and shoving at recess and after school. Only equipment that is designed to withstand the worst mistreatment possible will give satisfaction.

WEISTEEL compartment doors are fabricated from copper bearing sheet steel, electrically welded into a substantial unit. The four corner joints of the mitered stiles and rails are electrically welded by an exclusive process. We employ a unique reinforcement at each door corner, so that the corners, instead of being the weakest are actually the strongest part of the unit. These joints are then finished flush and smooth, insuring a pleasing appearance.

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SHOWER STALLS-COMPARTMENTS-CUBICLES



.. make them **SAFETY** lines
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A SCHOOL or community cannot discharge its obligation to children by simply pointing out the danger of running off the playground. Only by providing positive protection can relief from responsibility be obtained.

Children *must* stay on the playground where the boundary is marked by a neat and strong Anchor Playground Fence . . . a friendly barrier, standing ever-vigilant, ready to turn back scampering feet from the dangerous roadway.

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MAPLE FLOORING MANUFACTURERS ASSOCIATION
1797 McCormick Building, Chicago

The letters **MFMA** on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing and grading rules which economically conserve these remarkable woods. This trade-mark is for your protection. Look for it on the flooring you use.

MFMA

Public money must be used wisely . . . especially in school building. More and more, architects, school boards and superintendents are coming to realize the wisdom of flooring with the one flooring material that combines warmth, resiliency and comfort with the qualities of lasting wear . . . Northern Hard Maple is the answer.

Recommendations from all parts of the nation bear testimony to this increasing acceptance of Hard Maple as the superior flooring for schools. Chief among these is the following from William B. Ittner, St. Louis, Missouri, widely recognized as an outstanding school architect of the country:

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"We are still using Maple flooring after more than a quarter of a century's experience with it, which is the best recommendation we can offer."

Northern Hard Maple is resilient, remarkably tough-fibred and tough-grained. It will not splinter or splinter. Scuffing, youthful feet and the moving of equipment only make it smoother with time. Northern Hard Maple actually out-wears stone!

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Hundreds of school boards have been guided by these facts in selecting flooring. They have chosen Maple for schoolrooms, corridors, gymnasiums, assembly halls. Consult your architect about Northern Hard Maple.

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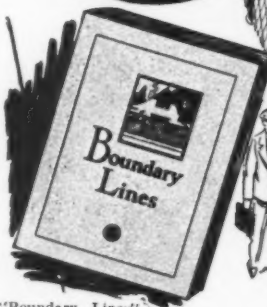
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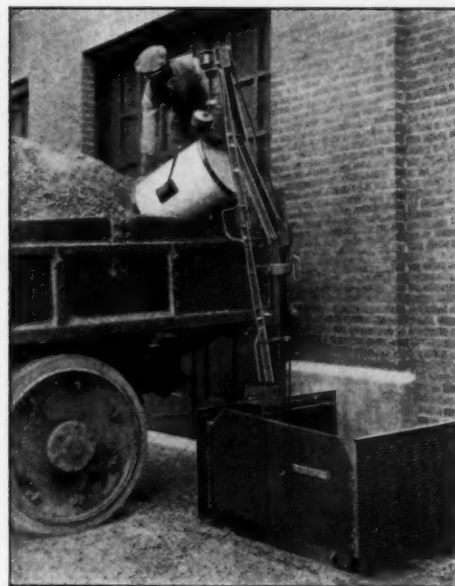
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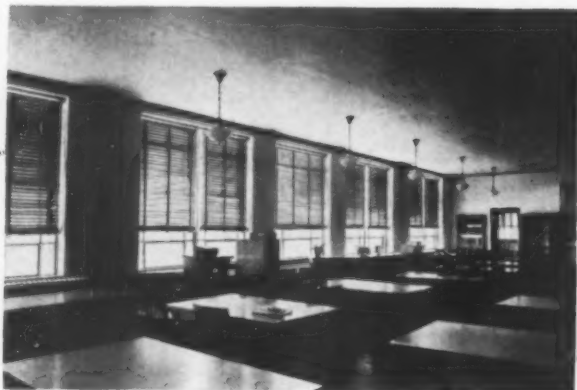
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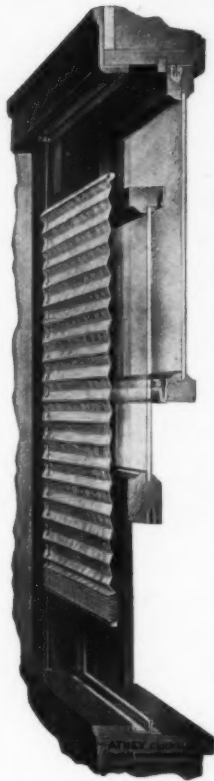
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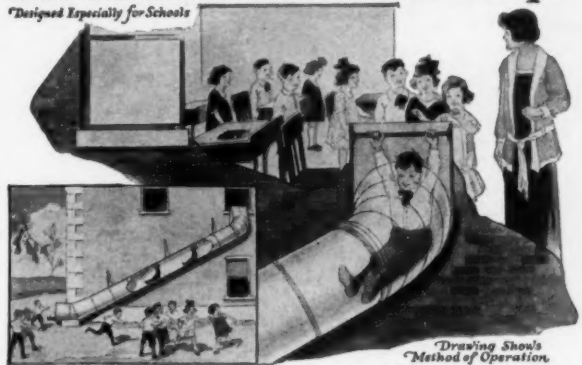
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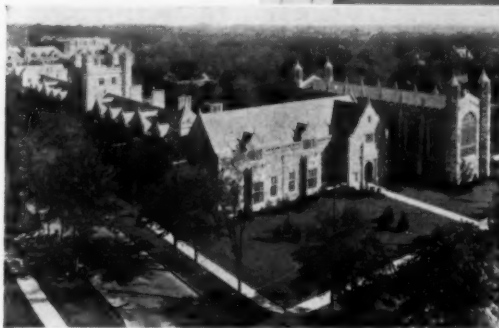
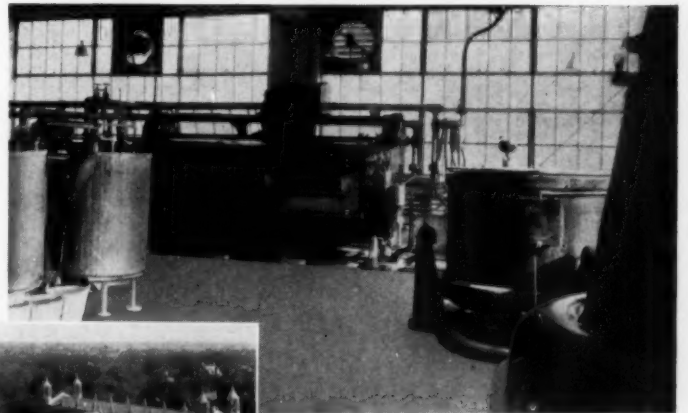


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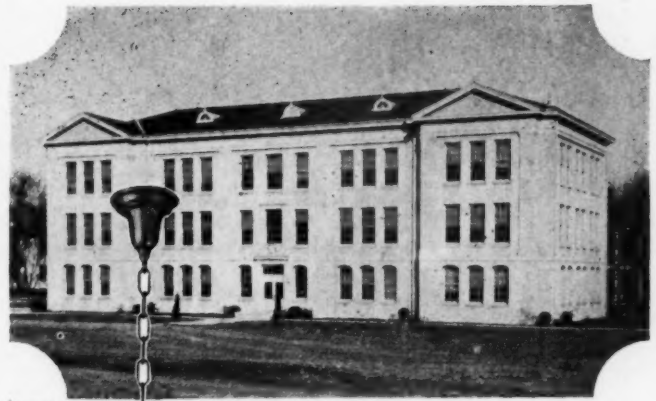
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Manufacturers of Lighting
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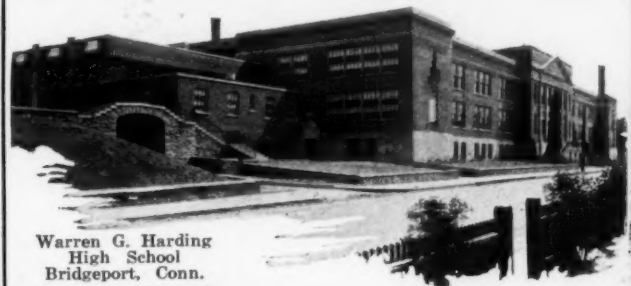
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Hamlin Soundproof doors and partitions are in modern schools all over America. Write to us for list and prices. May be easily installed in schools now built.

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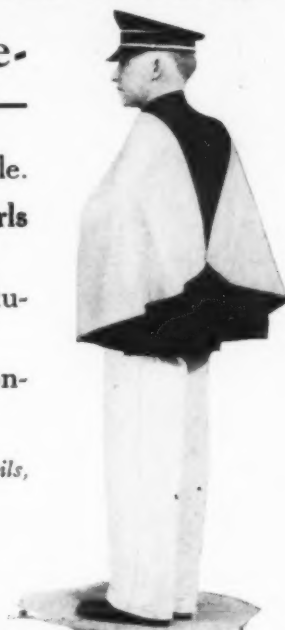


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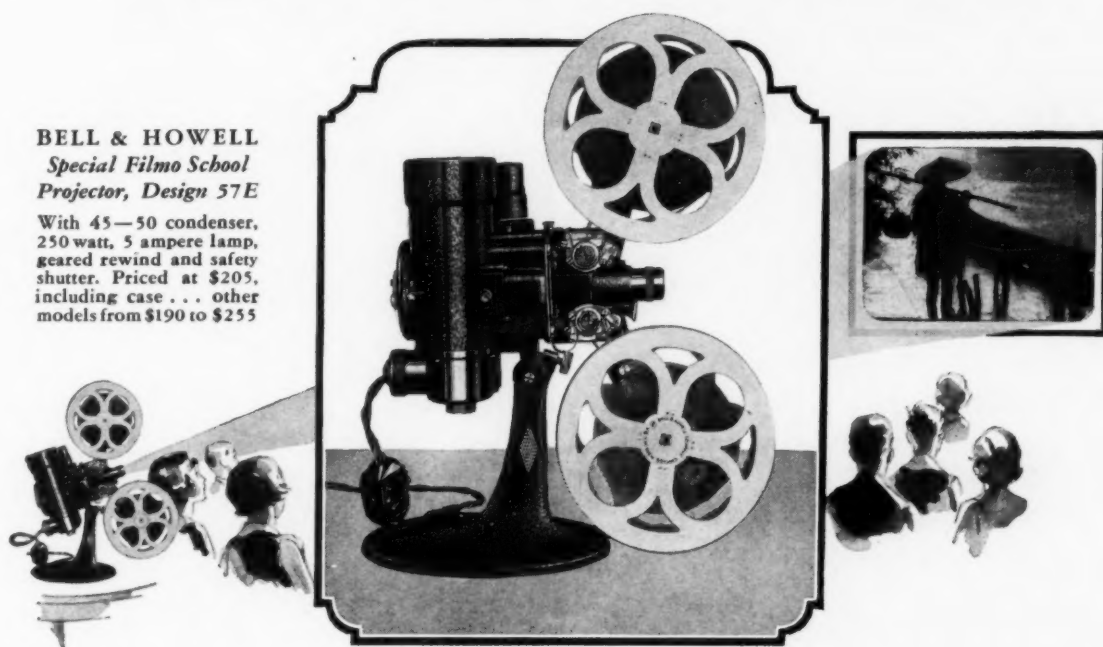
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Let the Children *Visualize it* with Educational Movies

BELL & HOWELL Special Filmo School Projector, Design 57E

With 45—50 condenser,
250 watt, 5 ampere lamp,
geared rewind and safety
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including case . . . other
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For Clear, Unflickering Pictures the New BELL & HOWELL Filmo School Projector is Recommended

THE absorbing interest with which children view movies projected on the schoolroom screen has won for the movie projector an all-important place in modern school equipment.

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It projects pictures of matchless brilliance and clearness. Its wonderful nine-to-one mechanical movement does away completely with eye-tiring flicker and produces pictures as clear and steady as any seen in the finest theaters.

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With B. & H. Superbrite equipment Filmo delivers greater illumination to the screen than any other 16 mm. projector made.

Let Bell & Howell tell you about the wealth of Educational Films available to schools everywhere—also further facts regarding Filmo. Send coupon for the new booklet, "Filmo in Schools and Colleges."



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Filmo

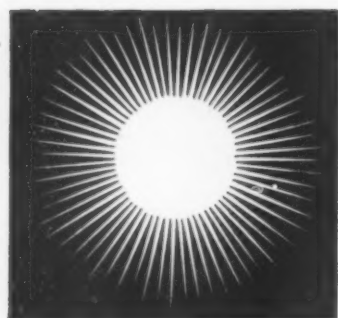
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New York, Hollywood, London (B. & H. Co., Ltd.) Established 1907

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Please mail me your booklet, "Filmo in Schools and Colleges,"
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School.....

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Skimmed SUNLIGHT

YOU wouldn't expect your children to thrive on a diet of skimmed milk, so why furnish them "skimmed sunlight" in the schoolroom?

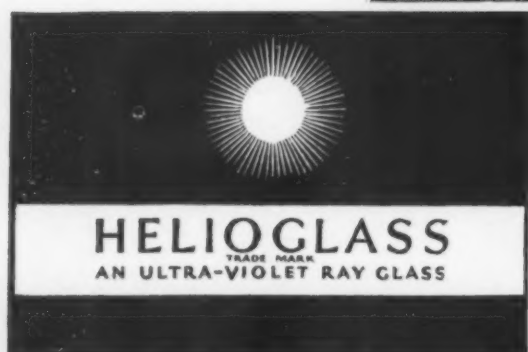
The ultra-violet rays of the sunlight are a vital factor in the growth and development of children's bodies and minds.

Let this outdoor sunlight into the schoolrooms and health and spirits—mind and body—will benefit.

HELIOGLASS lets the ultra-violet rays in—ordinary glass keeps them out.

HELIOGLASS gives the boys and girls—yes, and the teachers, too—all the advantages of outdoor classes with indoor protection.

Write for information about this health-giving glass which more than pays for itself in bright, happy, healthy school children.

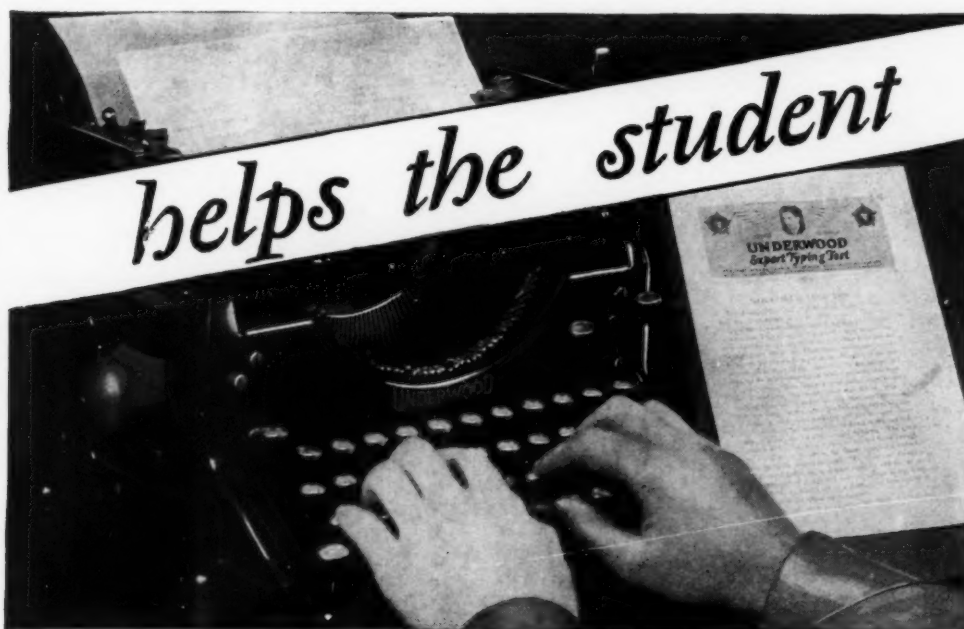


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Helping the teacher

THE Underwood Typewriter itself is a great help to the teacher because its simple, easy operation removes the drudgery that many students find in practise. But, more than this, Underwood School Service provides aids and incentives that interest the student in better typewriting, making the teacher's work easier and more effective. Beside the "Monthly Test" illustrated here there are eight outstanding features of Underwood School Service in which every teacher of typewriting and every school executive is interested.



helps the student

UNDERWOOD
THE STANDARD TYPEWRITER



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SIGNAL SYSTEMS

ESTABLISHED 1875



The Fire Exit Drill

THE fire alarm and exit drill system is a recognized necessity in all schools.

The efficiency of a fire drill depends on the proper design of the system and the reliability of the apparatus.

The conscientious school board will not look with favor upon the selection of an inferior system upon which may depend the lives of little children.

Holtzer-Cabot systems are designed for all types of schools and provide the utmost in reliability.

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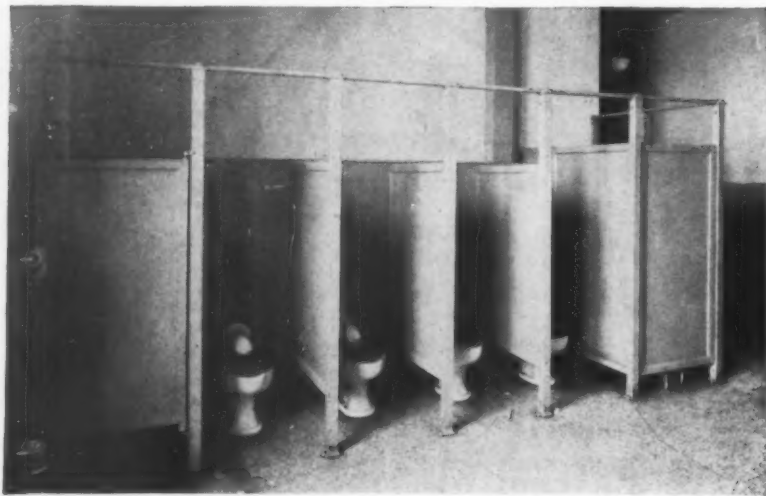
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"EBCO" STEEL TOILET ENCLOSURES

for

**Toilet, Dressing
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In Schools
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Many of the leading schools and colleges of the country have "EBCO" Steel Enclosures as well as thousands of Factories and Public Buildings. They are recognized as the most durable, sanitary and attractive enclosures obtainable.

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Fire, vermin, corrosion and jack knives cannot harm the solid, durable steel of "EBCO" enclosures. The very best quality furniture stock, full cold rolled, annealed and patent leveled sheet steel containing the proper percentage of copper to make it rust resisting is used in "EBCO" construction.

"EBCO" enclosures may be had with or without doors and without utility or vent space. They may be used in any arrangement of standard sizes and installed economically. In fact, "EBCO" steel enclosures are most economical because they are practically permanent—never need replacement or repairing due to natural use. All fittings and hardware are of the very best—door hinges being of the aluminum bronze incased roller bearing gravity type.

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It takes a **WHALE** of a seat



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There is absolutely only one way to guard against the vandalism of the public. Install seats of such super-strength construction, that the worst treatment in the world cannot smash them.

Whale-bone-ite is such a seat. Though it costs no more than the cheapest composition closet seat made, its unbreakable construction—guaranteed for the life of the building—immediately ends all replacement expense.

Its handsome polished Whale-bone-ite surface will last a life-time. It is easy to clean and non-inflammable. Its hinge also is covered with Whale-bone-ite, giving it the same strong, polished surface as the seat, and making it non-corrosive.

The use of Whale-bone-ite Seats is spreading to the

guest bathrooms of fine hotels. Many new apartment houses are equipping all toilets with it.

**Send for free cross-section
—see its strength yourself**

Figures show that on the average ordinary seats have to be replaced about every three years. If you want to end this needless expense, just as it already has been ended in more than a million public toilets in modern and remodelled buildings, simply install Whale-bone-ite Seats as fast as other seats wear out. Not only will the replacement expense end, but the toilets will be cleaner as Whale-bone-ite is easier to keep clean. Without obligation send for a free Whale-bone-ite cross-section. Simply address Dept. G-2, Seat Division, The Brunswick-Balke-Collender Co., 623 South Wabash Avenue, Chicago.

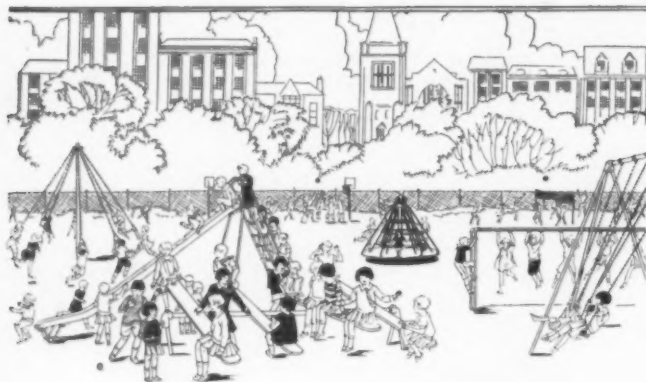
THE BRUNSWICK-BALKE-COLLENDER CO.—Chicago

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THE WHALE-BONE-ITE Seat and Hinge form an unbreakable unit. The seat is molded around a laminated core of alternating-grain layers of hardwood, making it proof against warping, cracking and splitting. The die-cast hinge is molded integral with the seat.

BRUNSWICK
WHALE-BONE-ITE
TOILET SEATS



More Playgrounds— Fewer Accidents

Keep the children off the streets—give them good playgrounds with plenty of funmaking, muscle building, health developing equipment—and yours will be a town where accidents involving children are few and far between.

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Schools, institutions, cities—the country over—which have equipped their playgrounds with Everwear Equipment have found it superior. Also more economical, because of its greater durability.

Send for Catalog No. 20 which gives complete information. Lists 161 different models and sizes of apparatus with which to plan your playground.

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SPRINGFIELD, OHIO
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Ever Wear
PLAYGROUND APPARATUS

“INTER-TWILL” Window Shades for SCHOOLS

Fulfill all requirements

Specify—“INTER-TWILL” because . . . there are more years of service in these window shades. It is a TWILL woven fabric of exceptional strength. “Inter-twill” shades are washable.

If total exclusion of light is desired, specify Interstate “NOLITE” Shade Cloth. Shadowless and light-proof in all colors including light colors and white.

Made in the color tone of your choosing

Interstate Shade Cloth Co.

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The Lapsley-Interstate Shade Cloth Co.,

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CATALOG “F” of laboratory furniture should be in the hands of every school executive. It will be sent promptly, prepaid, upon request. In it you will find a complete line of laboratory furniture, giving in concise terms the exact construction of each piece. The many illustrations will convey to you a clear idea of the completed furniture as a large number of them are made from actual photographs



OUR SERVICE Department of trained engineers and designers is available, without charge or obligation, to school authorities, architects and builders for making layout plans for various laboratories.

Send us sketches of your proposed laboratories and we will make suggested layouts for you

Welch Furniture, formerly the “Wiese” line manufactured in our factory at Manitowoc, Wis.

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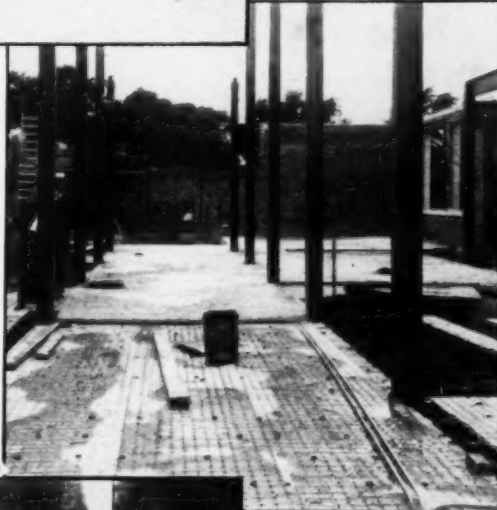
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Representatives in
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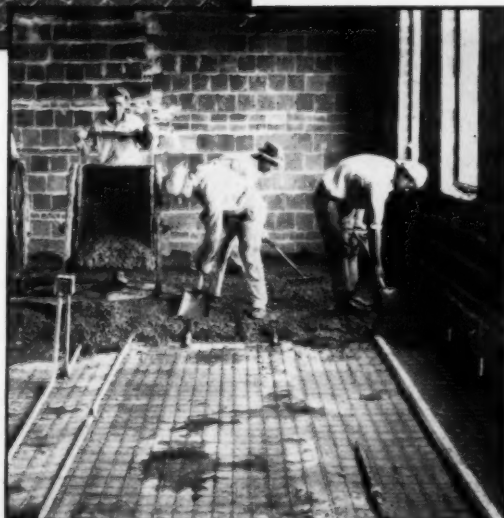
(above) The floors of Spring Academy, Fond du Lac, Wisconsin, are concrete reinforced with STEELTEX supported on steel joists.



(right) In this modern school at Batavia, N. Y., concrete floors supported by steel joists are an important factor of construction. STEELTEX acted as the concrete form, and reinforces the floors.



(left) STEELTEX for Floors is a combined steel reinforcing mesh and concrete form. It is quickly unrolled and cut to any desired length. It can be placed over any type of beam or joist by means of STEELTEX for Floors clips or wedges.



(right) Placing concrete on STEELTEX—watertight form—correct reinforcing.

“Complies with architects’ specifications— *water-tight concrete form, correct reinforcing*” they say about STEELTEX for Floors

ARCHITECTS, engineers, and contractors are welcoming a new concrete floor method that saves materials, time, labor, and money, and gives a cleaner, stronger completed job.

STEELTEX complies with architects’ specifications—*water-tight concrete form—correct reinforcing*. Save annoyance, time and—expense. *Build for safety* by rigidly following architects’ and material manufacturers’ specifications.

Although STEELTEX was announced to the construction industry barely a year ago it is already reinforcing the concrete floors of hundreds of buildings—hotels, apartments, churches, hospitals, schools, theatres, and office buildings.

The pictures show the outstanding adaptability of STEELTEX but you will want complete information. Send for our free book, *STEELTEX for Floors*. The coupon brings it promptly.

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The world’s largest manufacturers of welded steel fabric

STEELTEX

FOUR TYPES—SAME PRINCIPLE
SAME PROTECTION

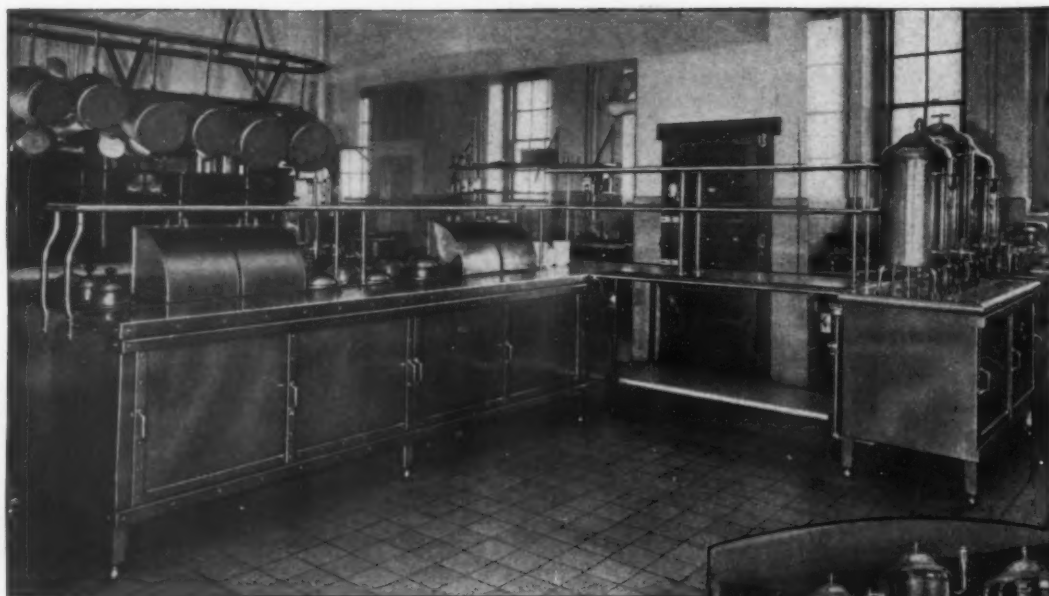
for plaster . . for stucco . . for floors and roofs
(concrete and gypsum) for stone or brick facing.

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Send, without obligation, your book, “STEELTEX
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Monel Metal food service equipment in Vanderbilt Hall, Harvard Medical School, Boston. Installed by MORANDI-PROCTOR CO., 86 Washington Street, Boston.



HARVARD MEDICAL SCHOOL —another prominent institution MONEL METAL EQUIPPED

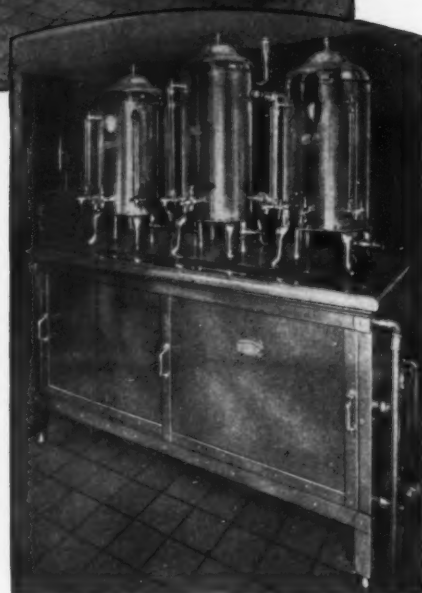
THE contribution of Monel Metal food service equipment to the successful management of cafeterias and lunch rooms is fully recognized by the country's foremost schools and colleges. Public school officials, domestic science departments, as well as many leading authorities on lunch room operation, agree that Monel Metal affords the rare combination of service properties now demanded by the most modern type of food service equipment.

Monel Metal is sanitary, clean-looking and attractive. Its rust-immunity, corrosion-resistance, steel-like strength and chip proof surface make it economical and long wearing. Monel Metal provides the most permanent type of equipment available.

Before considering plans for new food service installations, investigate carefully the advantages of Monel Metal. Discuss the matter with your regular equipment manufacturer or write direct for more information.

MONEL METAL

Monel Metal is a technically controlled Nickel-Copper alloy of high Nickel content. It is mined, smelted, refined, rolled and marketed solely by The International Nickel Company, Inc. The name "Monel Metal" is a registered trade mark.



Monel Metal urn stand, Vanderbilt Hall, Harvard Medical School. Installed by Morandi-Proctor Co., Boston, Mass.

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American Cities

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Made under our own supervision in our own Daylight Factory.

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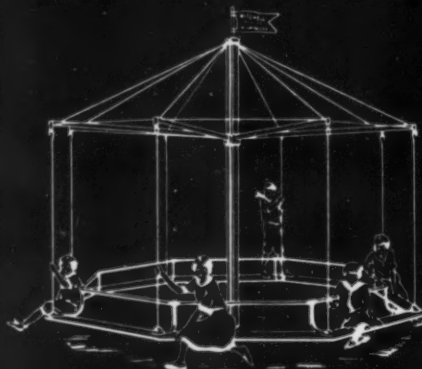
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Playground Apparatus

Schools—Homes—Parks



Mitchell Whirl

The Mitchell Whirl, shown above, is just one number in the "Betterbilt" line. Send for free illustrated catalog and name of your state distributor.

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furnished with our compliments in your own medicine cabinet will soon convince you that

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First Aid Prophylactic and General Antiseptic Use

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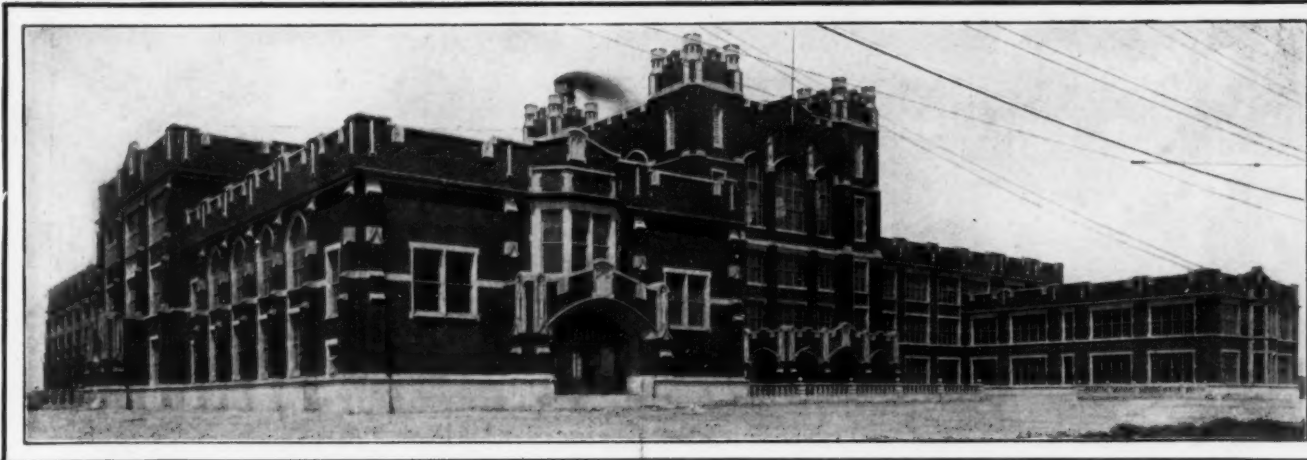
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WORLD'S LARGEST MANUFACTURER OF REFRIGERATORS FOR ALL PURPOSES



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FIRST CONSIDERATION must be given to health in providing equipment for food service in the modern school. That is one reason why the McCray refrigerators are so frequently found in the cafeterias and domestic science kitchens of the modern school.

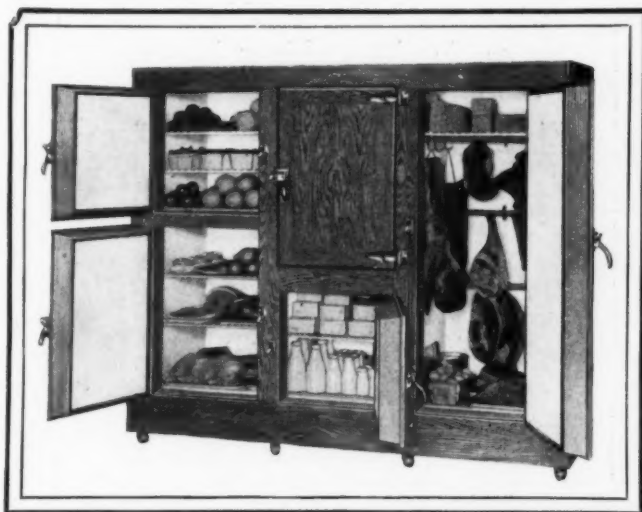
For McCray refrigerators keep foods better, longer at less expense for ice or current. The McCray record is built on 40 years of service—

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Styles and sizes to meet every need are available in the McCray line. In addition, McCray engineers will gladly cooperate in designing built-to-order equipment to fulfill your special requirements.

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**MECHANICAL
REFRIGERATION
of Any Type
CAN BE USED
with the
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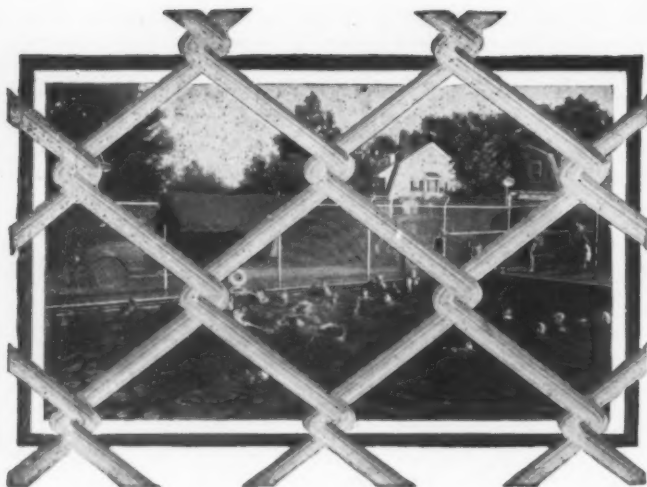
The New McCRAY No. 332, porcelain lined. Especially adapted for schools and institutions.

The new McCray No. 332, illustrated here, with porcelain lining, pure corkboard insulation, furniture oak exterior, represents the highest achievement in 40 years of fine refrigerator building.

See the new McCray models at the salesroom near you, or write for catalogs and information regarding equipment to meet your needs exactly.

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40 Years School Experience

For more than 40 years, the fencing of school grounds, athletic fields, and stadia has been an important part of the Stewart business. This experience enables us not only to supply durable, artistic fence (iron or wire), but also to render a valuable service both as consultants on fence problems and as erectors of fence.

Our experience may save you money—why not use it?

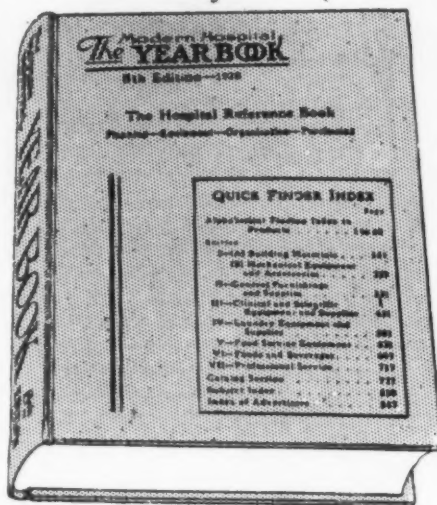
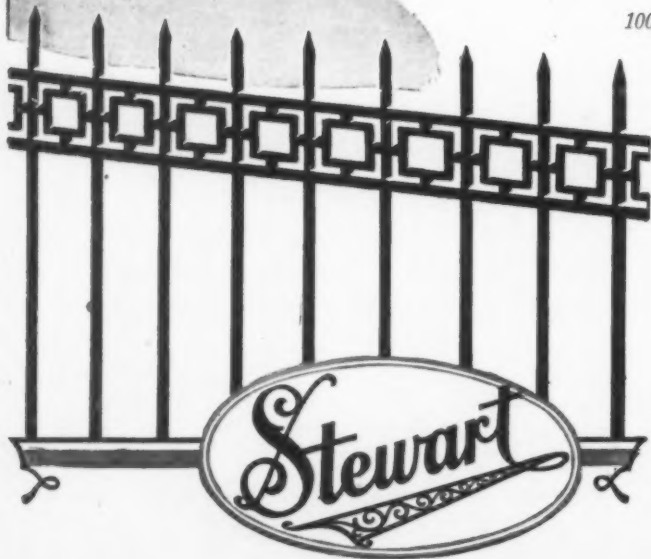
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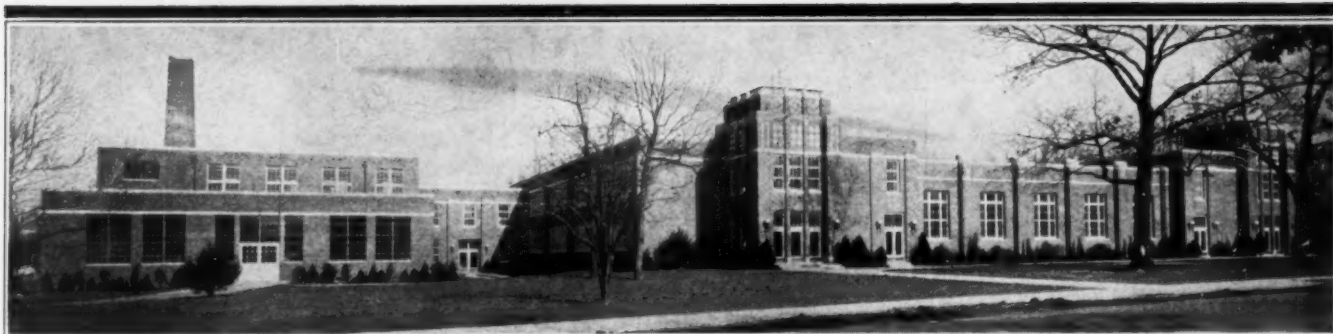
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Senior High School, Ft. Smith, Ark. Gymnasium floored with Bloxonend. Perkins, Chatten & Hammond, Architects, Chicago. Bassham & Wheeler, Supervising Architects, Ft. Smith, Ark. J. W. Ramsey, Supt. Schools.

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THIS new Senior High School—one of the finest in the South—is representative of the type of school using Bloxonend Flooring. And too, the architects on this job are representative of the nearly 200 "School Specialists" regularly specifying Bloxonend for gymnasiums and shops.

Bloxonend is a bright, clean, handsome, end-grain flooring. It is furnished in built-up strips $2\frac{1}{2}$ in. thick and 8 ft. long. Its end-grain surface eliminates the splinter hazard and insures long life. This floor lays smooth and stays smooth. It is resilient and "fast" under foot and provides the ideal surface for calisthenics, basket ball, dancing and other gym activities. No upkeep costs.



A Bloxonend Floored Gym in Senior High School, Ft. Smith, Ark.

Our Booklet "School Floors" contains specifications for laying, gives details of construction and illustrates representative installations in gymnasiums and shops. Write for a copy of booklet and sample of flooring.

CARTER BLOXONEND FLOORING COMPANY

Kansas City, Missouri

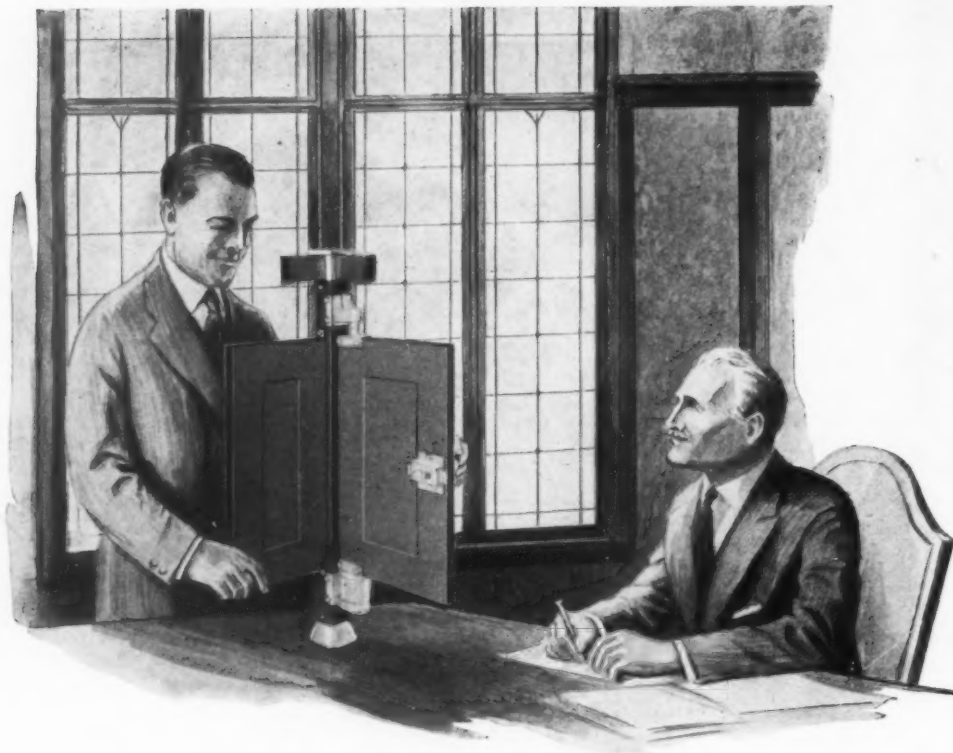
Branch Offices in Leading Cities

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Bloxonend is made of Southern Pine with the tough end grain up. It comes in 8 ft. lengths with the blocks dove-tailed endwise onto baseboards.



*Lays Smooth
Stays Smooth*

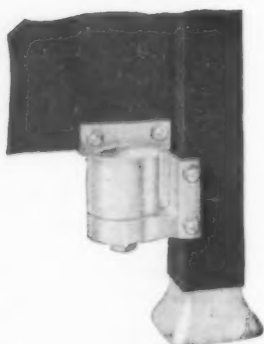


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Floor cleaning methods in schools are important. Hand methods simply will not do. It is an established fact that cleaning by hand will not get the dirt off an ordinary floor. What then can it do with a floor which bears the traffic of hundreds of feet each day—feet which are none too careful of where they walk?

Many of the leading educational establishments of the country are enthusiastic users of the FINNELL Floor Machine, for polishing, or scrubbing floors. They have found that it *meets the need*. School superintendents and school board members everywhere should urge an investigation of

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2500 Pounds Pressure



A typical Crane shower installation in the Weber Gymnasium, Ogden, Utah. Architect for this building, Woods & Jensen. Plumbing and Heating Contractor, T. E. Thomas Plumbing and Heating Co.

Showers are beneficial only when they are dependable

Under a steady stream of tempered water, muscles are washed free of exhaustion . . . taut nerves are gently slackened. Athletic directors realize this, and emphasize the shower as an essential in conditioning teams. Doctors know it, and recommend showers as a certain method of soothing overwrought systems . . . of safeguarding health . . . and of making cleanliness more inviting. But to fulfill these ends a shower installation must be free from annoying mechanical imperfections. It must diffuse the water



evenly. It must temper it with precise nicety. It must operate easily and control the strength of the flow.

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cellence in all piping materials, valves, fittings, and fixtures. It is only natural then that Crane shower installations should be found in a convincing number of school gymnasiums throughout the country.

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